The OPEN DOOR to INDEPENDENCE

MAKING MONEY FROM THE SOIL

WHAT TO DO – HOW TO DO

ON CITY LOTS
SUBURBAN GROUNDS
COUNTRY FARMS

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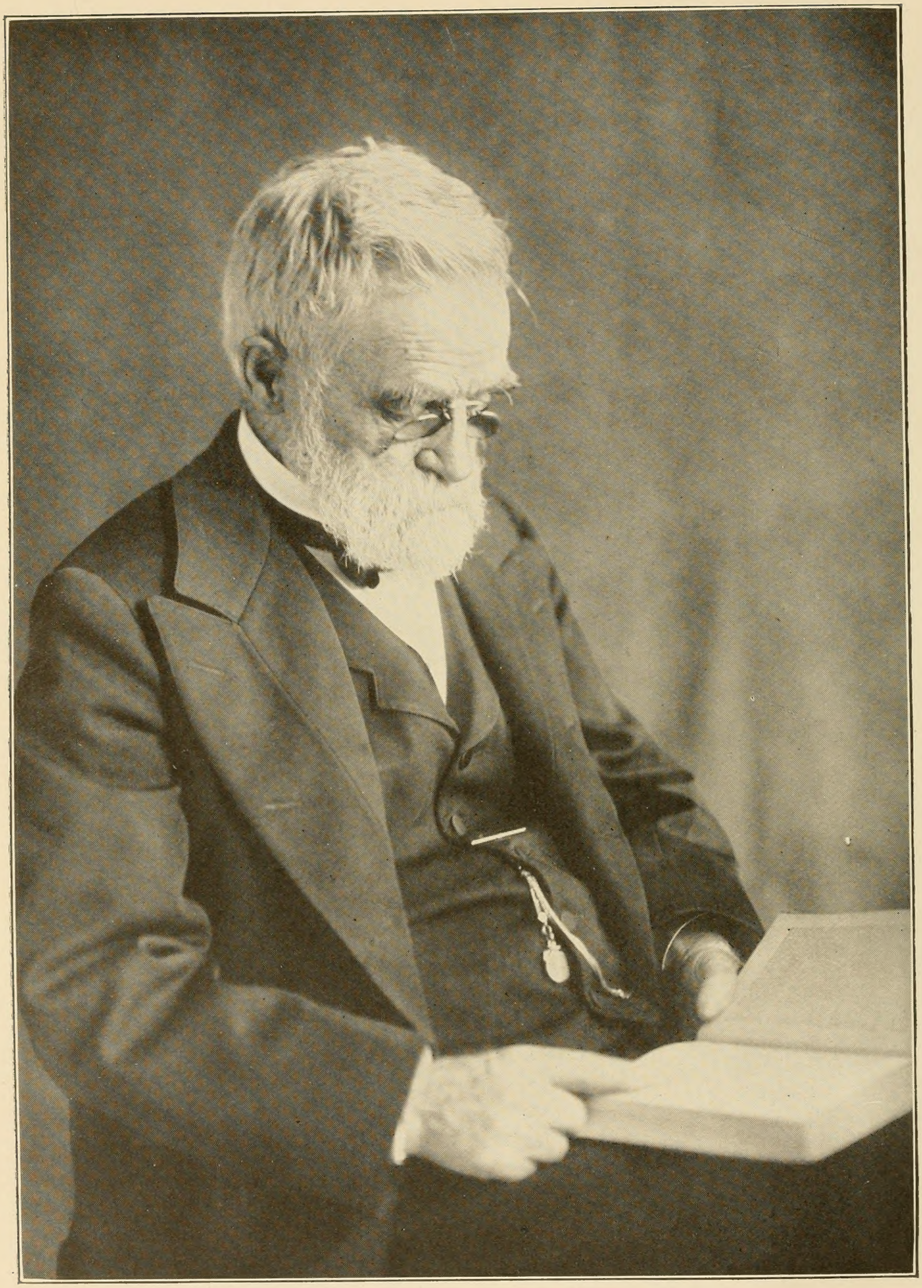
BACK TO THE LAND



Thomas E. Hill

THE OPEN DOOR TO INDEPENDENCE

Making Money From the Soil

WHAT TO DO—HOW TO DO

ON

CITY LOTS, SUBURBAN GROUNDS
COUNTRY FARMS

Together with Outline Maps of All Parts of the United States, Irrigated Regions, Climates, Cities, Villages, Market Towns, Locations and Populations

HOW TO FERTILIZE SOIL

Landscape—Beautify—Cultivate—and Successfully Grow Fruits, Flowers, Vegetables and Grains.

WHILE OBTAINING FOOD AND SUPPORT

How to Have Comfort and Luxury on the Farm, in the Suburb, and on the City Lot

HOW TO CARE FOR DOMESTIC ANIMALS

Sheltering, Feeding, Humanely and Profitably Increasing Breeds and Flocks

By THOMAS E. HILL

Practical Farmer and Scientific Agriculturist
Author of
"Hill's Manual," "Hill's Album of Biography,"
"Hill's Practical Encyclopedia," Etc.

CHICAGO
HILL STANDARD BOOK COMPANY
1915

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No 1

PREFACE

The purpose of this volume is to enable people to utilize, beautify and enjoy the use and ownership of land. "BACK TO THE LAND" does not necessarily mean removing from one location to another, but rather the utilization of land wherever you are—your home garden and grounds, either city, suburb, or your country farm.

Nevertheless, this volume does teach you how to go back to the land and shows you how to choose the location most likely to meet your requirements and realize for you the best results.

This volume tells where desirable land is located, how far there, the climate, and population of over 43,000 market towns. It tells how to subdue the land, fertilize, plant, cultivate, grow the best fruits and grains, the use of agricultural tools; how to utilize domestic animals, breed flocks, grow flowers, beautify the home surroundings, how to prosper and enjoy rural life.

Within these pages more than one thousand subjects pertaining to farming, gardening, home building and care of domestic animals are treated practically in such plain language that beneficial results are certain to be obtained by all persons who follow directions.

THOMAS E. HILL

Index of Guide to Land

[An Alphabetical Index to One Thousand Subjects and Titles covered in this book will be found on pages 441-445. Index to Illustrations, pages 446-448.]

For Description of Any One of the Forty-eight States and Territory of Alaska, See General Index of States.

General Index of States

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A GUIDE TO LAND

How to Use the Soil for Pleasure and Profit.

Ever since the days "when Adam delved and Eve span," the soil has furnished man's greatest and most natural means of livelihood. In fact, a man is never more of a man than when engaged in garnering a living from the bountiful bosom of Mother Earth.

The importance of the soil as a natural resource, and the pleasure and profit to be derived from land culture, are recognized today as never before in the history of the race. Congestion of population in urban centers, resulting in unemployment, poverty, disease, distress, squalor and crime, has turned the eyes of thousands of city residents to the opportunities afforded on every hand to gain health, happiness and financial freedom, by intelligent use of available land.

But the stumbling-block in the way of the city or suburban resident hitherto has been the question, how to set about it? How to realize the natural desire to get "back to the land"? How to utilize the garden space, the vacant lot, the suburban acre, or the possible truck farm or quarter section, so as to make them yield the profit that other men and women have wrested from their land, with bettered health and untold pleasure? The city man has hesitated to turn to the land for a living because of lack of exact knowledge how to make it pay. Now he need hesitate no longer, for in this book will be found in plenty just the kind of information and advice he requires, based upon the results of actual experience on the land and having all the weight and advantage of expert authority.

This is the first and only book to give this information to the land-hungry and the seeker after economic freedom. The slightest inspection will suffice to show that the book is replete with the most valuable features. Its "Guide to the Land" is the most comprehensive ever published, and the most useful to those seeking a locality for settlement, because it shows the characteristics of all available localities, including conditions of climate, soil and transportation, the kinds of crops that may be raised, and all the possibilities for profit that exist in the soil. Besides all this, a vast amount of useful information of a general character respecting each locality, is given in the Guide.

The Guide, however, important as it is, forms only one of the many features of this book that will appeal to the man or woman who feels the irresistible call "back to the land." It may not be necessary to look for a new location—and in that case this book will tell you what you can do with the land you have, though it be but the backyard of a city lot. It is packed full of the most practical kind of information on all subjects of interest to those who would know the joy and gain the benefit of raising the things that spring from the soil and the creatures that thrive upon them.

The best methods of agriculture, of horticulture, of stock-breeding, of dairying, of raising poultry for profit, of market gardening, fruit culture, bee-keeping, and a host of other profitable pursuits upon the land, are here described in full. The language of the book is that of the practical man, easily understandable and plain in direction and advice; but the information given is based upon exact science, upon knowledge gained by experience. It is akin to the information that would be gained by attendance at one of the great agricultural colleges, those splendid institutions that have done so much of late years to increase the efficiency of American agriculture and the comfort of rural homes; and that are yearly sending out their thousands of young men and women equipped with scientific ability to make two ears of corn grow where only one grew before, or to make the home of the ruralite healthier, happier and more prosperous by approved methods of domestic science. To those who cannot attend a school of agriculture, this book will bring, in a form for ready reference, many of the benefits of a technical training for living off the soil.

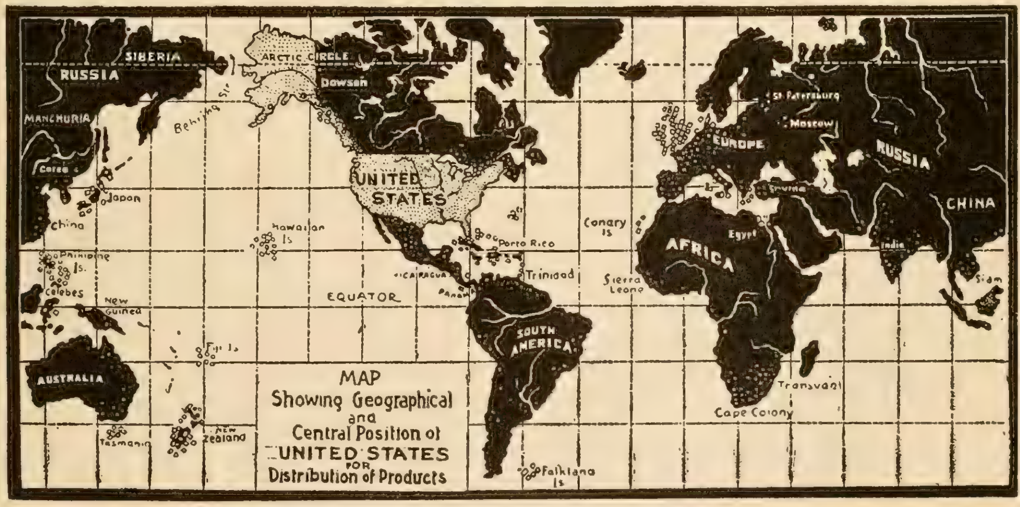
The business of farming is today at the flood-tide of prosperity. Every product of the soil is in great demand and the rewards of the agriculturist far exceed all previous records. No wonder then that the thoughts of hundreds of thousands of men in all walks of life are turned toward the business in which, more than in any other, the individual is his own master, the arbiter of his own destiny.

Nature stands ready to enter into partnership with any man who will undertake soil-cultivation in earnest, and will help him to success. And this book will show him how to start right in the oldest, greatest and most lucrative business the world has ever known. It is a book for everybody, since everybody is interested in the land; a book for the business man, the parent and the teacher; for the dweller in the city and the tiller of the soil. From its pages the young may learn, or may be taught, how the wonderful products of Nature are made available for man's use, and every seeker after independence and comfort may learn how to secure them from the soil.

The World and Its Divisions of Land and Water

THE EARTH AS IT APPEARS IN SPACE
Showing Earth, Sun, Moon, a Comet and various Planets as they revolve in the immensity of space.

Admitting the theory that the earth, in its interior, is filled with liquid fire which finds vent, from time to time, in volcanic eruption, it is easy to understand how, in the remote past continents may have been thrown up, the moisture on the earth's surface settling into the hollows, thus making the oceans, seas and lakes.



MAP OF THE PRINCIPAL DIVISIONS OF THE EARTH
Displaying the central situation of the United States in relation to other countries of the world.

Relief Map Showing Mountains, Oceans, Lakes, Rivers and Plains

HARVEST TIME IN DIFFERENT PARTS OF THE WORLD.

In January the wheat is harvested in Australia, New Zealand, Chile and the Argentine Republic.

In February and March the harvest has extended into upper Egypt and India.

In April it is in lower Egypt, India, Persia, Syria, Asia Minor, Cyprus, Mexico and Cuba.

In May it reaches perfection in Algeria, Central Asia, China, Japan, Morocco and Texas.

In June it has reached into Oregon, California, Alabama, Mississippi, Georgia, North Carolina, South Carolina, Virginia, Kentucky, Tennessee, Kansas, Arkansas, Colorado, Utah, Missouri, Turkey, Greece, Italy, Spain, Portugal and the South of France.

In July it has extended into New Zealand, New York, Pennsylvania, Ohio, Indiana, Michigan, Illinois, Iowa, Wisconsin, Southern Minnesota, Nebraska, Upper Canada, Roumania, Bulgaria, Austria, Hungary, South of Russia, Germany, Switzerland and the South of England.

In August the harvest is actively going forward in Central and Northern Minnesota, Dakota, Manitoba, Lower Canada, Columbia, Belgium, Holland, Great Britain, Denmark, Poland and Central Russia.

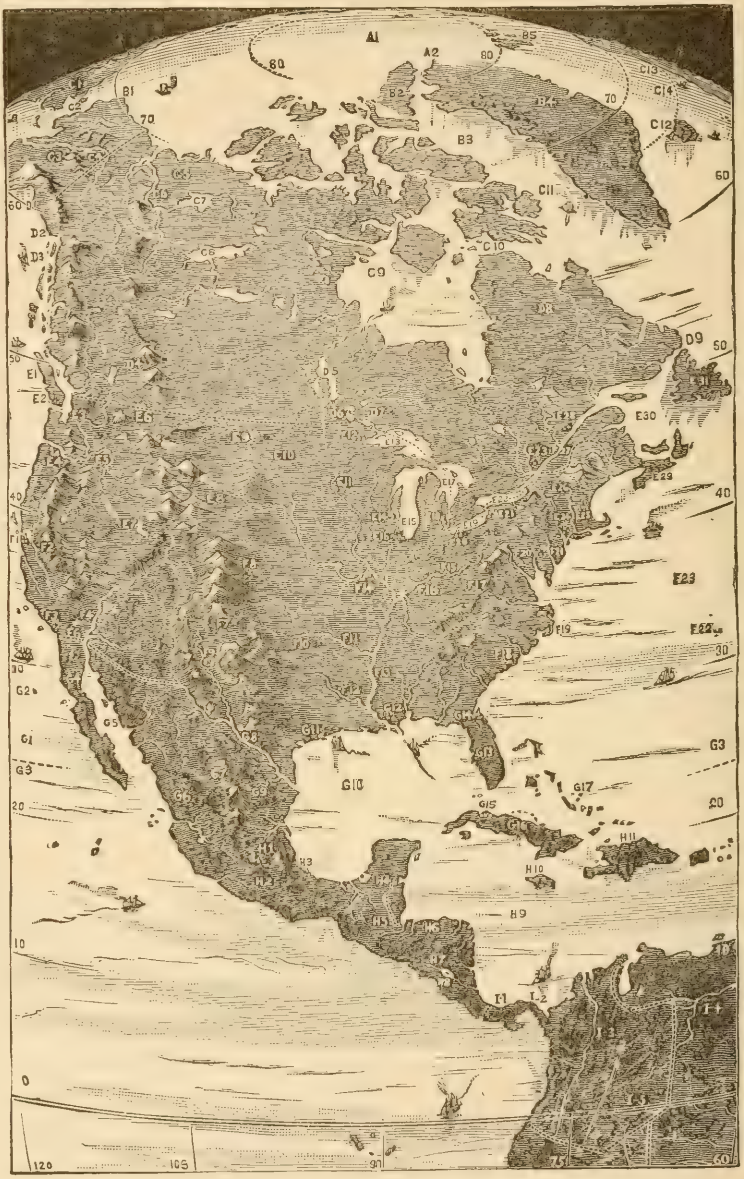
In September and October it has reached up into Scotland, Norway, Sweden and the North of Russia.

In November it is proceeding in Peru and South Africa, and in December it is in Burmah.

FOREIGN CITIES, DISTANCES FROM CHICAGO.

	Miles.
Amsterdam, Holland	4,897
Antwerp, Belgium	4,912
Athens, Greece	6,567
Berlin, Germany	5,147
Bremen, Germany	5,147
Brindisi, Italy	6,117
Brussels, Belgium	4,887
Christiania, Norway	5,562
Con'nople, Turkey	6,722
Rangoon, India	12,822
St. Helena, West of Africa	10,192
Bahia, Brazil	6,782
Bermuda, E. of U. S.	1,692
Colon, Columbia	3,217
Havana, Cuba	2,312
Livingston, Guatemala	3,407
Nassau, Bahama Ils.	2,067
Rio Janerio, Brazil	7,642
Singapore	11,328
Tampico, Mexico	3,162
Adelaide, Australia	11,933
Hongkong, China	9,678
Honolulu, Sand. Is.	4,733
Melbourne, Aus.	11,353
Yokohama, Japan	7,813
Well'ton, N. Zealand	9,878

Part of the Western Hemisphere, Including North American Continent.



Map of the North American Continent.

Occupied, two thousand or more years ago, by the Mound Builders; more recently by the red men, called Indians; opened to civilization by Christopher Columbus, who discovered the Bahama Islands, October 12, 1492.

This map and three others taken from "Hill's Guide," by Thomas E. Hill, published by Laird & Lee, Chicago, Ill.

When examining the map of North America figures will be found extending from left to right, beginning with A 1 and A 2, in the Arctic regions; succeeding which are B 1, etc., in the regions south of latitude 80; while south of latitude 70 are C 1, and so on, down to Central America. Letters and figures on the map indicate important localities. By examining the map the letters and figures will be readily found indicating points that are thus described.

Localities and Objects Designated on Map by Letters and Numbers

A 1.	North Pole.
A 2.	Highest Point of Arctic Exploration.
B 1.	Point Barrow.
B 2.	Cape Sabin.
B 3.	Baffin's Bay.
B 4.	Greenland.
B 5.	Spitzbergen.
C 1.	Siberia, Russia.
C 2.	Behring's Str't.
C 3.	Alaska.
C 4.	Yukon River.
C 5.	Can. Dominion.
C 6.	M'Kenzie River.
C 7.	Gt. Bear Lake.
C 8.	Gt. Slave Lake.
C 9.	Hudson Bay.
C 10.	Hudson Strait.
C 11.	Davis Strait.
C 12.	Iceland.
C 13.	Norway.
C 14.	Arctic Circle.
D 1.	Mt. St. Elias.
D 2.	Mt. Fairweather.
D 3.	Sitka, Alaska.
D 4.	Mt. Brown.
D 5.	Lake Winnipeg.
D 6.	Winnipeg.
D 7.	Lake Nipigon.
D 8.	Labrador.
D 9.	Strait of Belle Isle.
E 1.	Vancouver Is.
E 2.	Victoria, B. C.
E 3.	Mt. St. Helens.
E 4.	Portland, Ore.
E 5.	Columbia River.
E 6.	Boundary Line.
E 7.	Salt Lake, Utah.
E 8.	Yellowstone Pk.
E 9.	Missouri River.
E 10.	Dakota.
E 11.	St. Paul, Minn.
E 12.	Duluth, Minn.
E 13.	Lake Superior.
E 14.	Mackinac.
E 15.	Lake Michigan.
E 16.	Chicago.
E 17.	Lake Huron.
E 18.	Detroit, Mich.
E 19.	Lake Erie.
E 20.	Cleveland.
E 21.	Buffalo. N. Y.
E 22.	Lake Ontario.
E 23.	Montreal, Can.
E 24.	New York, N. Y.
E 25.	Boston, Mass.
E 26.	Mt. Wash'gton.
E 27.	St. Lawrence R.
E 28.	Quebec, Can.
E 29.	Nova Scotia.
E 30.	Gulf of St. Lawrence.
E 31.	Newfoundland.
F 1.	San Francisco.
F 2.	Sierra Nev. Mts.
F 3.	San Diego.
F 4.	Salton Lake.
F 5.	Colorado River.
F 6.	Mex. Boundary.
F 7.	Rocky Mts.
F 8.	Denver, Colo.
F 9.	Santa Fe.
F 10.	Indian Ter.
F 11.	Arkansas River.
F 12.	Red River.
F 13.	Missisippi River
F 14.	St. Louis, Mo.
F 15.	Ohio River.
F 16.	Cincinnati, O.
F 17.	Allegheny Mts.
F 18.	Charleston, S. C.
F 19.	Cape Hatteras.
F 20.	Wash'gton, D. C.
F 21.	Phil'delphia, Pa.
F 22.	Bermuda Isl'ds.
F 23.	Atlantic Ocean.
G 1.	Pacific Ocean.
G 2.	Guadaloupe Is.
G 3.	Tropic of Canc'r.
G 4.	Low. California.
G 5.	Gf. of Calif'nia.
G 6.	Mexico.
G 7.	Sierra Madre.
G 8.	Rio Grande.
G 9.	Monterey, Mex.
G 10.	Gulf of Mexico.
G 11.	Galveston, Tex.
G 12.	New Orleans.
G 13.	Florida.
G 14.	St. Augustine.
G 15.	Havana.
G 16.	Cuba, W. Indies.
G 17.	Watling Island.
H 1.	Mexico City.
H 2.	Pococatepetl.
H 3.	Vera Cruz, Mex.
H 4.	Yucatan, S. A.
H 5.	Guatemala.
H 6.	Honduras.
H 7.	Nicaragua.
H 8.	Nicaragua Lake.
H 9.	Caribbean Sea.
H 10.	Jamaica.
H 11.	Hayti, W. Inds.
I 1.	Ist. of Panama.
I 2.	Aspinwall.
I 3.	U. S. of Col'bia.
I 4.	Venezuela, S. C.
I 5.	Equator.

Description of Notable Objects on the North American Continent.

A 1. The North Pole. An imaginary point where the lines of longitude are supposed to converge.

A 2. The Point Near the North Pole, reached by arctic navigators, being Lockwood Island, discovered by the Greely expedition in May, 1883, and supposed to be about 450 miles from the North Pole. Failing to get supplies, the expedition started southward, and camped at Cape Sabin (see B. 2), about 420 miles southwest of Lockwood Island, where they were rescued in a dying condition by the relief expedition under guidance of Commander W. S. Schley, 7 being rescued alive, 17 having died before relief arrived.

B 1. Point Barrows. The northernmost point of Alaska, and the most northern point of the United States' possessions.

B 2. Cape Sabin. A locality that will always be notable as the place where the Greely explorers went into camp and waited for relief, which did not come until the majority of the party had died.

B 3. Baffin's Bay. So named after William Baffin, who first explored the region in 1816. It is a large inland sea, 1,000 miles long and 500 miles wide.

B 4. Greenland. A region of unknown extent northward, said to have been discovered in the ninth century by an Icelander. Dr. Kane extended his explorations northward, across Greenland, to within 520 miles of the North Pole. The whole face of the northern portion is covered with a sheet of ice and snow. Greenlanders are widely scattered throughout the colder regions of the north.

B 5. Spitzbergen. A group of islands covering about 30,000 English square miles. Covered with nearly perpetual snow and glaciers.

C 1. Siberia. A vast territory in North Asia, belonging to Russia, 4,000 miles long and 2,600 wide.

C 2. Behring's Strait. Explored by Vitus Behring in 1728; is nearly 50 miles wide from Alaska to Siberia, with three uninhabited islands nearly midway between. Towards the middle the water is about 120 feet in depth. With a railroad spanning the distance between Alaska and Siberia, either above water or in a tunnel under the water, nearly all portions of the world could be traversed by continuous railways.

C 3. Alaska. Belongs to the United States; comprises 565,862 square miles; population in 1900, 63,592. A small proportion are whites. Purchased of Russia, in 1867, for $7,200,000. Alaskan waters are the home of the fur seal, the largest weighing about 700 pounds.

C 4. Yukon River. The principal river of Alaska; rises in the Rocky Mountains, in the Canadian Dominion, flows 2,000 miles, and empties into the Pacific ocean some 400 miles southwest of Behring Strait.

C 5. Canadian Dominion. A vast area of country in the northern part of North America, usually designated as British America, contains 3,500,000 square miles, extending from the Atlantic to the Pacific Ocean, and from the United States to the Arctic Ocean. Population in 1901 was 5,528,847.

C 6. Mackenzie River. An important river of British America, 1,773 miles long. Runs through Athabasca and Great Slave Lakes, and empties into the Arctic Ocean.

C 7. Great Bear Lake. By observing a perfect map of North America it will be seen that a chain of lakes extends from the Arctic Ocean, near Alaska, eastward to the Gulf of St. Lawrence. The most northerly of these is Great Bear Lake, the area of surface of which is estimated to be 14,000 square miles.

C 8. Great Slave Lake. Next, south of Great Bear, is Great Slave Lake, 300 miles in length by 50 in width, and like other lakes in this region, wholly frozen over for six months in the year.

C 9. Hudson Bay. A great inland sea, on the borders of which the Hudson Bay Company, which was established in 1670, held control until 1869; at which time their possessions were transferred to the Dominion of Canada for the sum of $1,500,000, they only reserving their trading posts and a small amount of land around each post.

C 10. Hudson Strait is a body of water joining Hudson Bay with the Atlantic Ocean; is 450 miles in length, by 60 miles in width.

C 11. Davis Strait. So called from the name of the navigator who first discovered it. Connects Baffin's Bay with the Atlantic Ocean, being at its narrowest point 160 miles in width.

C 12. Iceland. An island 300 miles in length by 200 miles in width; in the northernmost part of the Atlantic in the confines of the Arctic Ocean; belongs to the kingdom of Denmark. Is about 800 miles from Norway and 300 from Greenland. Settled by Norwegians in the latter part of the ninth century; has thus been open to civilization over 1,000 years. Possessed once a climate much more warm than now.

In spite of cold and poverty its people have been noted for literary attainments and scientific acquirements. Population, 1901, 78,470.

C 13. Norway. Formerly formed with Sweden one joint kingdom; is 1,100 miles long and 250 miles wide; has, however, its own government, legislative machinery, army and navy, after the manner of each separate State in the United States.

C 14. Arctic Circle. A circle drawn around the North Pole which is supposed to divide the arctic regions from the temperate zone.

D 1. Mt. St. Elias. A volcanic mountain between Alaska and British America; is 19,000 feet in height and is one of the highest peaks in North America.

D 2. Mt. Fairweather. In southeast Alaska; is 14,900 feet, or 2¾ miles, in height.

D 3. Sitka. The former capital of Alaska, on the coast, in the southernmost part of that territory.

Points of Interest in the Central Part of North America

D 4. Mt. Brown. Is 15,900 feet high, in the Rocky Mountains, near Mt. Hooker, in the same range of mountains; the latter being 15,675 feet in height.

D 5. Lake Winnipeg. Is 90 miles north of Minnesota; is 264 miles long, 85 miles wide.

D 6. Winnipeg. Capital of Manitoba; celebrated for its schools and advanced civilization. Population, 1901, 90,204.

D 7. Lake Nipigon. An important lake at the head of Nipigon River, renowned as a resort for fishermen.

D 8. Labrador. A portion of the North American continent supposed to have been visited by the Northmen in the ninth century; is a cold, frigid region a large portion of the year, and is settled largely by the Esquimaux. Is under English rule.

D 9. Strait of Belle Isle. A narrow neck of water separating Labrador from Newfoundland.

E 1. Vancouver Island. Is 270 miles long, 50 miles wide, and has, with its chief town, Victoria, a large and growing population. Under British rule.

E 2. Victoria. Capital of the province of British Columbia; stands at the southeast extremity of Vancouver Island.

E 3. Mt. St. Helena. In the southeast of Washington State; 13,400 feet high. Mt. Hood, in northern Oregon, is 11,225 feet high.

E 4. Portland, Ore. Population 1900, 90,426. This is a region, owing to mild, moist and favorable climate, of remarkable fruit and vegetable production.

E 5. Columbia River. Largest stream on the western coast of the United States, being 1,000 miles long.

E 6. Boundary Line, between the United States and the British Dominion.

E 7. Salt Lake. An extensive sheet of salt water, 70 miles long and 30 miles wide, having an average depth of 7 or 8 feet, and nowhere over 20 feet in depth. Its surface is over 4,200 feet above the sea. Nine islands are found in this lake, some of which are 3,250 feet above the level of its surface. No living creature is found in its waters, which constitute one of the purest and most concentrated brines in the world. Receives fresh water from two sources, but has no outlet.

E 8. Yellowstone Park. Is 65 miles long and 55 miles wide; contains from 5,000 to 10,000 springs, and 50 geysers that throw water to a height of from 50 to 200 feet. Was set apart by Congress as a public park in 1872.

E 9. Missouri River. The longest continuous river in the world; springs out in the Rocky Mountains, in Montana, runs north 200 miles, thence east 1,200 miles, thence southeast to the mouth of the Kansas River, thence east to the Mississippi, thence south, in the union with the Mississippi, to the Gulf of Mexico; its entire length being 4,506 miles; 2,540 miles being navigable, in high water, up from the Mississippi.

E 10. Dakota. So called from the Dakota Indians; was set apart as a territory in 1861, and admitted into the Union as two states in 1889. Bountiful wheat-growing region.

E 11. St. Paul. Population 1900, 163,065.

E 12. Duluth. Population, 1900, 52,969.

E 13. Lake Superior. Is the largest body of fresh water in the world, being 355 miles long and 160 wide; is 600 feet above the level of the sea; its average depth is 1,000 feet, its bottom thus being 400 feet below the level of the sea.

E 14. Mackinac. An island located at the northern extremity of Michigan, in the Straits of Mackinac; is a national park 3 miles long by 2 miles wide; is much frequented as a summer resort.

E 15. Lake Michigan. The second in size of the great fresh water lakes; lies wholly in the United States, 240 miles long and 88 miles wide in some places.

E 16. Chicago. In the vicinity of Chicago, and to the westward, throughout the Mississippi valley, are the great prairies where the rank growth of vegetation has blossomed and gone to decay, every year for centuries, creating a wondrously fertile soil, adapted to the growth of that important cereal known as corn.

E 17. Lake Huron. One of the five great lakes. Separates the Canadian dominion from the State of Michigan. Area, 20,000 square miles. Depth, 1,000 feet. Its surface is 584 feet above the level of the ocean. Contains 3,000 islands.

E 18. Detroit. Population, 1900, 285,704.

E 19. Lake Erie. Length, 240 miles; breadth, from 30 to 60 miles. Average depth about 120 feet.

E 20. Cleveland Population, 1900, 381,768.

E 21. Buffalo. Population, 1900, 352,387.

E 22. Lake Ontario. Easternmost of the five great lakes, is 196 miles long and 55 miles wide, being, in some places, 600 feet deep.

E 23. Montreal. The largest city of Canada. 400 miles from New York, 180 miles from Quebec and 2,750 miles from Liverpool, England. Population, 1901, 267,730.

E 24. New York City. Population, 1905, 3,948,191.

E 25. Boston. Population, 1904, 588,482.

E 26. Mt. Washington. One of the highest of the White Mountains, in the State of New Hampshire, is 6,285 feet high; has a carriage road and railway to its summit, on the top of which is a signal service station and a hotel.

E 27. St. Lawrence River. Rises at the lower end of Lake Ontario and empties into the Gulf of St. Lawrence, being 750 miles long. Including the chain of lakes it is 3,200 miles long up to Duluth.

E 28. Quebec. The location where this city is situated was discovered by Jacques Cartier in 1553, and founded by Champlain in 1608. Throughout the Canadian Dominion one of the principal sports of the country is that of tobogganing on the frozen snow, in the long winter season. Capital of the Providence of Quebec. Population, 1901, 68,840.

E 29. Nova Scotia. A small province belonging to the British Possessions 280 miles long and from 50 to 100 miles in width. Contains about 400 lakes and a population of 459,572. Capital city, Halifax.

E 30. Gulf of St. Lawrence. Lies westward of Newfoundland, and is the entrance to the St. Lawrence river.

E 31. Newfoundland. An island and province of the British Possessions at the eastward extreme of the North American continent; is 370 miles in length, 290 in breadth.

F 1. San Francisco. Population, 1900, 342,782.

F 2. Sierra Nevada Mountains. Extending 450 miles in length along the eastern boundary of California.

F 3. San Diego. Seaport city and port of entry, having a superior harbor, in lower California. Modern discovery by Cabrillo in 1542. First settled in 1769. A new town commenced in 1867. Has many attractions both as a summer and winter resort. Will become a large city. Population in 1900, 17,700.

F 4. Salton Lake. A newly formed lake in southern California.

F 5. Colorado River. Rises in southeastern Utah, flows first west and then south 2,000 miles, emptying into the Gulf of California.

F 6. Boundary Line of Mexico. Extending from the Pacific Ocean to the Gulf of Mexico, a distance of about 1,400 miles.

F 7. Rocky Mountains. Extending from Mexico to the Arctic Ocean, a distance of 2,500 miles, being over 1,000 miles wide in the U. S.

F 8. Denver. Population, 1900, 133,859.

F 9. Santa Fe. Capital of New Mexico. An old Spanish-Mexican town, founded in 1605.

F 10. Indian Territory. A region having about 10,000 square miles, originally set apart by the government in 1848 for the use of the Indians.

F 11. Arkansas River. Excepting the Missouri, the largest branch of the Mississippi. Rises in the Rocky Mountains and flows 2,170 miles, southeastward, to the Mississippi, being navigable for eight months of the year for a distance of 800 miles from its mouth.

F 12. Red River. Rises on the east border of New Mexico.

F 13. Mississippi River. The principal river of North America and, including its chief branch, the Missouri, the longest in the world. Rises in the highlands of Minnesota and flows southward 2,616 miles.

F 14. St. Louis. Population, 1900, 575,238.

Notable Localities and Objects in Southern North America

F 15. Ohio River. Formed by the union of the Allegheny and Monongahela at Pittsburg, Pa.; thence flows southwest to the Mississippi 950 miles. Navigable through its entire length.

F 16. Cincinnati. Population, 1900, 325,902.

F 17. Allegheny Mountains. Extending from Cape Gaspe, on the Gulf of St. Lawrence, southwest to Alabama, 1,300 miles. Are the dividing ridge between the Atlantic and the Mississippi valley.

F 18. Charleston. Population, 1900, 55,807. Since the early settlement of the States this has been a region celebrated for the growth of cotton.

F 19. Cape Hatteras. A dangerous point for ships on the sea, at the extreme eastern point of North Carolina.

F 20. Washington. Population, 1900, 278,718.

F 21. Philadelphia. Population, 1900, 1,293,697.

F 22. Bermuda Islands. So named because first discovered by Bermudez, a Spaniard, in 1527. Were colonized in 1609. There are 500 islets, which, in all, contain about 12,000 acres, the whole occupying about 20 miles in length by 6 miles in breadth.

F 23. Atlantic Ocean. That ocean, at the eastward of America, which divides the old world from the new, extending from the Arctic circle on the north to the Antarctic circle on the south; is 5,000 miles wide at the widest and 1,600 miles in width at the narrowest point.

G 1. Pacific Ocean. That great body of water at the westward of America, being about 9,000 miles long by 10,300 miles broad, at its greatest breadth, its area covering about two-fifths of the entire globe.

G 2. Guadeloupe Island. Three hundred miles to the westward of lower California.

G 3. Tropic of Cancer. That line which is supposed to be the northern boundary of the equatorial region.

G 4. Lower California. That portion of California which is principally in Mexican territory; a very dry, rocky and forbidding region having a population numbering about 12,000 persons, the most of whom live near the southern extremity of the peninsula.

G 5. Gulf of California. Divides lower California from the rest of Mexico. Is 700 miles long and from 40 to 100 miles wide.

G 6. Mexico. Occupies the southern part of the North American continent, occupied by a race of beings, about the seventh century called the Toltecs; subsequently, in the twelfth century, by the Aztecs, who remained here until the conquest of the country, by Cortez, in 1519. Present population is little less than 14,000,000.

G 7. Sierra Madre. The name of the southern portion of the Rocky Mountains which are in Mexico.

G 8. Rio Grande River. Has a total length of about 1,800 miles, and for 1,100 miles forms the boundary between Mexico and the United States. Navigable for 450 miles from the sea.

G 9. Monterey, Mexico. The most thriving city of Northern Mexico, having, in 1900, a population of 62,266. Founded in 1596.

G 10. Gulf of Mexico. Basin of the Atlantic Ocean, covering an area of 800,000 square miles.

G 11. Galveston. Population, 1900, 37,789.

G 12. New Orleans. Population, 1900, 287,104.

G 13. Florida. The most southern portion of the United States, 400 miles long; average width, 120 miles. A very general and favorite resort, in the winter season, because of its mild climate.

G 14. St. Augustine. The oldest city in the United States. The region hereabouts first made known to Europeans by Ponce de Leon, who landed near the city in 1512. The city, itself, founded in 1565. A favorite resort for people from the north in the winter season. Widely known because of its magnificent Ponce de Leon hotel.

G 15. Havana. The capital of Cuba and the most important city in the West Indies. Founded by Velasquez in 1511. Population of Havana and its suburbs, 1899, 235,981.

G 16. Cuba. Largest of West India Islands. Length, 750 miles; average width, 50 miles. Population about 1,500,000. The white people of Cuba are of Spanish descent, and among the ladies are types of a very high order of beauty.

G 17. Watling Island. One of the Bahamas, being the island on which, it is supposed, Columbus first landed, October 12, 1492, upon his arrival in the New world, 70 days after leaving Spain.

H 1. Mexico City. Capital of the Mexican Republic. Situated on an elevated plateau; is laid out with great regularity, being about three miles square. Supposed to have been founded by the Aztecs in 1325. Population, 1900, 368,777.

H 2. Volcano Popocatepetl. Largest volcano in Mexico, a mountain about 10 miles southwest of Mexico City. Is 17,720 feet above sea level. Though it emits smoke, no eruption has taken place since 1540.

H 3. Vera Cruz. Leading harbor on the eastern coast of Mexico, 200 miles from the Mexican capital; built in semicircle and surrounded by a strong wall. Population about 17,000.

H 4. Yucatan. A Mexican peninsula jutting into the Gulf of Mexico. Discovered by the Spaniards in 1517.

H 5. Guatemala. In Central America. Area, 48,290 square miles; nearly as large as Ohio. Has a population of 1,842,134. Many Northerners have recently come here and engaged in the cultivation of coffee and bananas.

H 6. Honduras. A Republic in Central America about the size of Indiana, having a population of 744,901. Was discovered by Columbus on his fourth voyage, in 1562(?). Is being rapidly opened to settlers from the United States. Area, 42,658 square miles.

H 7. Nicaragua. A Republic of Central America, near the size of the State of New York. Population about 500,000. Has several smoking volcanoes, and a soil that produces, in abundance, all the fruits and vegetables of the tropics. Area, 49,200 square miles.

H 8. Lake Nicaragua. A sheet of water 110 miles long and from 30 to 50 miles wide.

H 9. Caribbean Sea. That part of the Atlantic Ocean, between the coasts of Central and South America and the large islands of the West Indies.

H 10. Jamaica. One of the West India Islands belonging to England, a little less in size than New Jersey. Length, 135 miles; 21 to 49 miles wide. Population, 581,000.

H 11. Hayti. Largest of the West India Islands, Cuba excepted; 400 miles long, 150 miles wide at the widest point. Is near the size of New Hampshire. Population about 1,425,000, nearly all negroes.

I-1. Isthmus of Panama. Narrow neck of land, connecting North and South America, a high range of mountains forming the barrier between the Atlantic and Pacific Oceans, which, at this point, are about 31 miles apart.

I-1. Panama Canal. The route for this canal was first surveyed in 1527; Panama railroad built in 1850-1855; Panama Canal Company organized by De Lesseps, 1879; work on canal begun 1881; Canal company failed, 1888; De Lesseps and others sentenced to prison for fraud, 1893; new French canal company formed, 1894; De Lesseps died, 1894; canal property offered to the United States, 1902, for $40,000,000; accepted, 1903; a canal treaty made with Colombia, January, 1903, was rejected by Colombia in August, 1903; Revolution; organized the Republic of Panama in November, 1903; United States treaty with Panama for purchase of territory five miles in width on each side of canal November, 1903.

I-2. Aspinwall. Sometimes called Colon, is built on the coral island of Manzanilla. Was founded by the Panama Railway Company, in 1850, and derives its name from W. H. Aspinwall, one of the principal railway shareholders.

I-3. United States of Colombia. The name for several confederated States, in this portion of South America, the area of which is 502,000 square miles; about seven times as large as the six New England States.

I-4. Venezuela. A portion of Northern South America. Includes nineteen separate States and Territories, and contains a population of 2,198,825. Republican government.

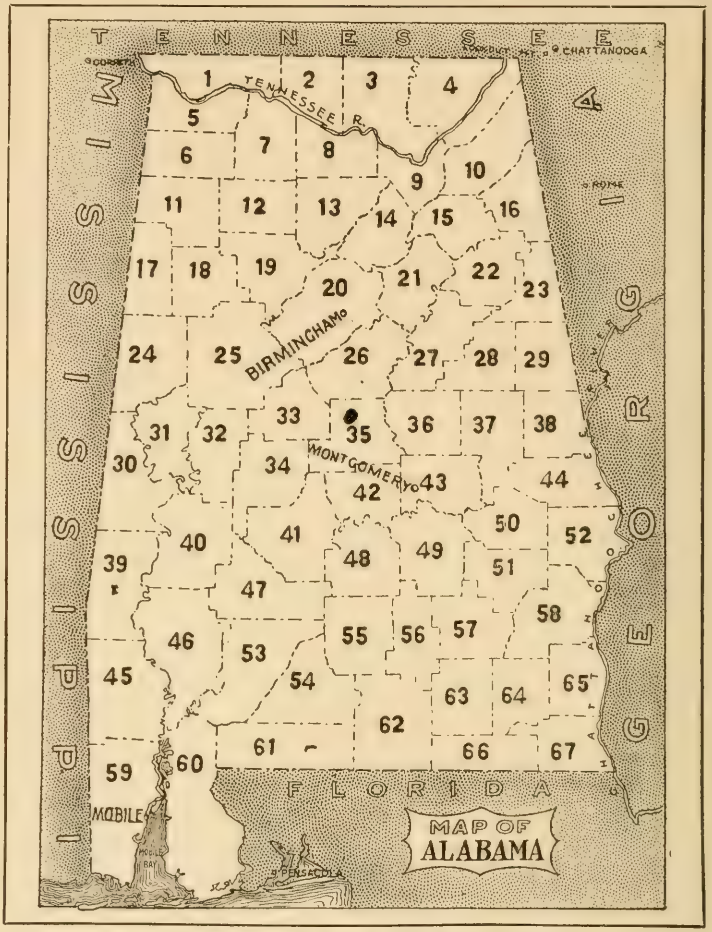
I-5. Equator. The imaginary partition line midway between the North and South Poles; divides the northern from the southern hemisphere, and crosses those regions which, being directly under the sun's vertical rays, are the warmest parts of the earth.

STATE AND THE 67 COUNTIES OF ALABAMA

With Their Boundaries

Location and Population of ALABAMA COUNTIES

Location	COUNTIES	Pop. 1910
1	Lauderdale	30,936
2	Limestone	26,880
3	Madison	47,041
4	Jackson	32,918
5	Colbert	24,802
6	Franklin	19,369
7	Lawrence	21,984
8	Morgan	33,781
9	Marshall	28,553
10	DeKalb	28,261
11	Marion	17,495
12	Winston	12,855
13	Cullman	28,331
14	Blount	21,456
15	Etowah	39,109
16	Cherokee	20,226
17	Lamar	17,487
18	Fayette	16,248
19	Walker	37,013
20	Jefferson	226,476
21	Saint Clair	20,715
22	Calhoun	39,115
23	Cleburne	13,385
24	Pickens	25,055
25	Tuscaloosa	47,559
26	Shelby	26,949
27	Talladega	37,921
28	Clay	21,006
29	Randolph	24,659
30	Sumter	28,699
31	Greene	22,717
32	Hale	39,115
33	Bibb	22,797
34	Perry	31,222
35	Chilton	23,187
36	Coosa	16,624
37	Tallapoosa	31,034
38	Chambers	36,056
39	Choctaw	18,483
40	Marengo	39,923
41	Dallas	58,401
42	Autauga	20,038
43	Elmore	28,245
44	Lee	22,867
45	Washington	14,454
46	Clarke	30,987
47	Wilcox	33,810
48	Lowndes	31,894
49	Montgomery	82,178
50	Macon	26,049
51	Bullock	30,196
52	Russell	25,937
53	Monroe	27,155
54	Conecuh	24,433
55	Butler	29,030
56	Crenshaw	23,313
57	Pike	30,815
58	Barbour	32,148
59	Mobile	80,854
60	Baldwin	18,178
61	Escambia	18,889
62	Covington	32,124
63	Coffee	26,119
64	Dale	21,873
65	Henry	20,943
66	Geneva	26,230
67	Houston	32,414
	Total	2,138,093



ALABAMA TOWNS WITH 1910 POPULATION

Towns	*Loca.*	*Pop.*
A		
Abbeville	65	1,141
Abercrombie	33	350
Abernant	25	300
Acton	26	1,500
Adamsville	20	649
Adgar	20	1,271
Alabama City	15	4,313
Alameda	46	218
Albertville	9	1,544
Aldrich	26	451
Alexander City	37	1,710
Aliceville	24	647
Allenton	47	208
Alton	20	200
Altoona	15	1,071
Andalusia	62	2,480
Anderson	1	226
Anniston	22	12,794
Ariton	64	431
Arkadelphia	13	207
Ashford	67	479
Ashland	28	1,062
Ashville	21	278
Athens	2	1,715
Atmore	61	1,060
Attalla	15	2,513
Aubrey	20	318
Auburn	44	1,408
Austinville	8	671
Autaugaville	42	313
Avondale	20	4,015
B		
Bangor	14	208
Banks	57	307
Barlow Bend	46	217
Battelle	10	1,614
Bay Minette	60	749
Bear Creek	11	614
Beatrice	53	349
Belcher	58	211
Bellamy	30	514
Belle Ellen	33	418
Bellwood	66	201
Benton	48	644
Berry	18	372
Bessemer	20	10,864
Baxar	11	384
Billingsley	42	256
Birmingham	20	132,685
Black	66	485
Bladen Springs	39	425
Blocton	33	2,500
Blossburg	20	1,518
Blount Springs	14	371
Blountsville	14	314
Blowhorn	14	287
Bluffton	16	318
Boaz	9	1,010
Boligee	31	200
Bolling	55	351
Bon Air	27	378
Bon Secour	60	355
Biraehead	33	257
Brantley	56	803
Brewton	61	2,185
Bridgeport	4	2,115

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located: Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Alabama Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Brierfield	33	2,081
Brighton	20	1,502
Brempton	21	251
Brooklyn	54	358
Brookside	20	623
Brookwood	25	1,550
Browns	41	200
Brundidge	57	815
Buena Vista	53	208
Burnsville	41	208
Butler	39	351
C		
Caddo	25	300
Cahala	41	214
Calumet	19	355
Camden	47	648
Camphill	37	896
Capitol Heights	49	403
Carbon Hill	19	1,627
Cardiff	20	426
Carrollton	24	441
Castlebury	54	225
Catherine	47	208
Center	16	256
Centerville	38	730
Central Mills	41	208
Chambers	49	250
Chatham	45	218
Chelsea	26	413
Chepultepec	14	212
Choccolocco	22	250
Chunchula	59	214
Citronelle	59	935
Clanton	35	1,123
Clayton	58	1,130
Clio	38	580
Coalburg	20	250
Coal City	21	685
Coal Creek	20	381
Coaling	25	250
Coal Valley	19	410
Cochrane	24	209
Coden	59	250
Coffee Springs	66	503
Collinsville	10	673
Columbia	67	1,122
Columbiana	26	1,079
Comer	58	200
Cordova	19	1,741
Corona	19	1,571
Cottondale	25	581
Cottonwood	65	578
Courtland	7	478
Covington	20	515
Crawford	52	218
Crossville	10	250
Cuba	39	650
Cullman	13	2,139
Curlo Station	13	200
Curtistown	15	200
D		
Dadeville	37	1,193
Daleva	67	218
Daleville	64	520
Daphne	60	718
Dayton	40	382
Decatur	8	4,328
Deer Crek	19	279
Demopolis	49	2,417
Dixons Mills	49	210
Dolomite	20	2.500
Dora	19	916
Dothan	67	7,016
Double Springs	12	205
Dozier	56	288
Duncanville	25	249
Dunn	20	1,018
E		
Eastaboga	27	298
E. Birmingham	20	531
East Lake	20	4,108
East Tallassee	37	2,020
East Thomas	20	1,500
Electric	43	315
Edwardsville	23	393
Effie	54	307
Elarnville	58	200
Elba	63	1,179
Elmore	43	317
Elvira	26	251
Elyton	20	1,126
Enon	51	317
Ensley	20	9,155
Enterprise	63	2,322
Epes	30	374
Equality	36	230
Eufaula	58	4,250
Eumora	66	321
Eutaw	31	1,001
Evergreen	54	1,582
Ezra	20	250
F		
Fairhope	60	590
Fairview	8	237
Falkville	18	335
Faunsdale	40	352
Fayette	18	636
Finchburg	53	200
Fisk	3	311
Fitzpatrick	51	398
Five Points	38	200
Flat Creek	40	217
Flomaton	61	539
Florala	62	2,439
Florence	1	6,689
Foley	60	218
Forest Home	55	311
Fort Davis	50	200
Fort Deposit	48	893
Fort Payne	10	1,317
Fredonia	38	250
Fruitdale	45	278
Fruithurst	23	257
Fulton	46	518
G		
Gadsden	15	10,557
Gainesville	30	532
Gallion	32	208
Gantt	62	321
Gantts Quarry	27	314
Garden City	13	200
Garland	55	250
Gate City	20	700
Gaylesville	16	204
Geneva	66	969
Georgiana	55	969
Girard	52	4,214
Glass	38	200
Glen Carbon	26	200
Glencoe	15	500
Glendale	69	600
Glenville	52	282
Glenwood	56	336
Good Water	36	740
Gordo	24	707
Gordon	67	293
Goshen	57	347
Graces	20	500
Graham	29	284
Granger	67	216
Grasselli	20	1,000
Graysville	20	428
Greeley	25	300
Green Pond	33	250
*Greensboro	32	2,048
*Greenville	55	3,377
*Grove Hill	46	314
Guin	11	356
*Guntersville	9	1,145
Gurley	3	750
Gurnee	26	200
H		
Hackleburg	11	286
Haleyville	12	1,111
*Hamilton	11	422
Hanceville	13	464
Hardaway	50	300
Hargrove	33	350
Hartford	66	1,159
Hartsells	8	1,374
Hatchechubbee	52	250
*Hayneville	43	400
Headland	65	1,090
*Heflin	23	839
Helena	26	400
Henryellen	20	459
Herbert	54	300
Highnote	66	300
Hillsboro	7	204
Hobbs Island	3	212
Hobson City	22	344
Hokes Bluff	15	312
Hollins	28	688
Hollywood	4	234
Holt	25	584
Houston	12	200
Hull	25	372
*Huntsville	3	7,611
Hurtsboro	52	764
I		
Iverness	51	241
Ireland Hill	11	225
Ironaton	27	987
Irondale	20	572
Isom	14	281
J		
Jackson	46	1,379
Jacksons Gap	37	207
Jacksonville	22	2,231
James	51	424
*Jasper	19	2,509
Jefferson	40	204
Jemison	35	413
Jernigan	52	500
Johns	20	500
Jonesboro	20	1,979
Jones Mills	53	442
K		
Kellyton	36	315
Kennedy	17	261
Kimberly	20	800
Kinsey	67	340
L		
*Lafayette	38	1,632
Lagarde	15	266
Lahusage	10	250
Lamison	47	250
Landersville	7	241
Lanett	38	3,820
Langdale	38	584
Langston	4	314
Lanier	27	300
Lapine	56	250
Larkinsville	4	216
Lawrenceville	65	200
Leeds	20	810
Lehigh	14	300
Leighton	5	540
Letohatchee	48	341
Lilita	30	213
Lily	35	300
Lim Rock	4	244
Lincoln	27	250
*Linden	40	1,900
Lineville	28	1,053
*Livingston	39	877
Loachapoka	44	357
Lockhart	62	600
Longview	26	250
Louisville	58	483
Lower Peach Tree	47	700
Lowndesboro	48	481
Luthers Store	49	250
*Luverne	56	1,384
M		
Maben	20	200
McCullum	19	200
McFall	22	820
McGhee	16	250
McKinley	40	214
Madison	3	426
Magazine	59	250
Magnolia	40	521
Magnolia Sprgs	60	244
Manchester	19	507
Maplesville	35	511
Marbury	42	617
Margaret	21	600
*Marion	34	1,834
Marion Junc	41	219
Marvel	33	421
Marvyn	52	300
Mathews	49	200
Maylene	26	350
Maysville	3	218
Mehama	7	344
Memphis	24	200
Midland City	64	539
Midway	51	464
Millport	17	529
Minter	59	318
Mitchell Sta	51	296
*Mobile	59	51,521
*Monroeville	53	616
Montevallo	26	923
*Montgomery	49	38,136
Moores Bridge	25	311
Morris	20	299
*Moulton	7	354
Moundville	32	253
Mountain Creek	35	314
Mount Andrew	58	307
Mount Hope	7	300
Mount Vernon	59	800
Mount Willing	48	231
Mulga	20	409
Munford	27	400
Murray	20	1,000
N		
Nanafalia	40	600
Natural Bridge	12	214
Nauvoo	19	392
Newbern	32	515
New Brockton	63	328
Newburg	6	250
New Decatur	8	6,118
New Hope	3	301
New Market	3	300
Newsite	37	300
Newton	64	524
Newville	65	522
Nokomis	61	209
North Birmingham	20	2,000
Northport	25	500
Notasulga	50	512
O		
Oakhill	47	341
Oakman	19	1,065
*Oneonta	14	609
*Opelika	44	4,734
Opp	62	863
Orrville	41	255
Osceola	16	270
Oxford	22	1,090
Oxmoor	20	501
*Ozark	64	2,229
P		
Paint Rock	4	534
Palmetto Beach	60	325
Palos	20	284
Pana	15	251
Patton	19	309
*Pell City	21	530
Ferdue Hill	53	282
Petrey	56	214
Phoenix	44	4,555
Pickensville	24	214
Piedmont	22	2,226
Pinckard	64	541
Pine Apple	47	627
Pine Grove	51	274
Pine Hill	47	470
Pine Level	49	250
Pinkney	21	358
Piper	33	500
Plateau	59	209
Pleasant Hill	41	506
Pleasanton	16	261
Pleasant Ridge	31	350
Pletcher	66	284
Pocahontas	19	300
Point Clear	60	431
Poley	62	317
Polard	61	599
Porter	20	226
Portersville	10	218
Powderly	20	341
Powers	32	250
Pratt City	20	3,485
*Prattville	42	2,222
Prentice	40	284
R		
Ragland	21	483
Ramer	49	314
Ramsey	30	309
Randolph	33	350
Red Bay	6	472
Red Level	62	317
Reform	24	550
Repton	54	331
Republic	20	350
Richmond	41	282
Riderville	35	500
Riley	53	200
River Falls	62	760
River Ridge	53	300
Riverside	21	277
River View	38	200
Roanoke	29	2,034
Robertsdale	60	340
*Rockford	36	600
Rock Mills	29	349
Rock Run	16	360

Alabama Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Rockwood	6	240
Round Mountain	16	210
Rue	25	272
Russell	59	208
*Russellville	6	2,046
Rutledge	56	230
S		
Saco	57	230
Saginaw	26	214
Saint Florian	1	450
Salem	44	309
Samson	66	1,350
Sandusky	20	491
Sandy Ridge	48	281
Sanford	62	742
Saraland	59	260
Sayre	20	600
Sayreton	20	644
*Scotsboro	4	1,019
Scott Station	34	219
Scyrene	46	203
Seale	52	312
Searles	25	781
Section	4	250
*Selma	41	13,649
Seloca	20	314
Seminole	60	209
Shady Grove	57	510
Sheffield	5	4,865
Shelby	26	753
Shorter	50	510
Silver Hill Sta.	60	360
Slocomb	66	896
Sloss	20	265
Smith Hill	33	422
Snowdown	49	260
Snow Hill	47	509
Somerville	8	265
Spring Garden	16	310
Spring Hill	59	200
Springville	21	350
Stafford	24	570
Stamp	10	260
Standing Rock	38	381
Stanton	35	410
Stevenson	4	574
Stewart	32	255
Stocks Mill	16	300
Stockton	60	943
Stouts Mountain	13	580
Suggsville	46	336
Sulligent	17	619
Summerfield	41	383
Sumterville	30	380
Sycamore	27	560
Sylacauga	27	1,456
T		
*Talladega	27	5,854
Tallassee	43	1,347
Taylorsville	3	284
Tecumseh	16	200
Texas	11	300
Theodore	59	300
Thomas	20	1,500
Thomaston	40	200
Thomasville	46	1,181
Thompson	51	263
Thorsby	35	500
Tilden	41	224
Town Creek	7	345
Townly	19	235
Triana	3	200
*Troy	57	4,961
Trussville	20	742
*Tuscaloosa	25	8,407
*Tuscumbia	5	3,324
*Tuskegee	50	2,803
U		
*Union Springs	51	4,055
Uniontown	34	1,836
V		
Valley Head	10	233
Verbena	35	400
*Vernon	17	423
Vincent	26	995
Vinegar Bend	45	540
W		
Wadley	29	426
Wadsworth	42	224
Wallace	61	204
Warrior	20	660
Warriorstand	50	400
Waterloo	1	435
Watkins	21	200
Watson	20	1,000
Wawbeek	61	200
Webb	67	256
White Plains	22	202
Wedowee	29	435
Weogufka	36	200
West Blockton	33	892
Westend	20	2,500
*Wetumpka	43	1,103
Whistler	59	2,000
White Oak Springs	58	249
White Plains	22	202
Whitfield	30	219
Wilmer	59	560
Wilsonville	26	933
Winfield	11	419
Woodlawn	20	2,848
Woodstock	33	590
Woodville	4	860
Woodward	20	795
Wylam	20	3,099
Y		
Yellow Pine	45	506
Yolande	25	1,040
York	30	710

Opportunities in Agriculture and Varied Enterprises.

ALABAMA.

This state, 330 miles in length by 154 miles in width, traversed by numerous large navigable rivers, which readily carry the products of the state to the great thoroughfares of ocean transportation, offers many inducements to people seeking new and desirable location for settlement on land.

The variety of climate resulting from difference of latitude permits the following of that kind of farming which is satisfactory to agriculturalists and horticulturalists who have had certain experience in cultivating the soil, and to those who have had no agricultural experience, the large diversity of opportunity here for getting a living appeal very strongly to the land seeker.

Thus those people who are fond of fruit culture, find climate and soil adapted to their wants in the southern counties bordering on the Gulf of Mexico.

SOIL IN SOUTHERN ALABAMA.

The southern part of the state has an alluvial soil, light, but highly productive and favorable for raising fruits. Cotton and corn are produced, and there are extensive forests of pine in this region.

COTTON AND MINERAL LAND OF ALABAMA.

Further north, towards the middle of the state, is a prairie region admirably adapted to the raising of cotton.

The great mineral section is in the eastern and northeastern part of the state. Here are the iron mines and the coal lands which have contributed so largely to the building up of the iron manufactories in Birmingham and the surrounding country.

It requires but a moment of consideration to realize that a combination of iron ore and prolific coal beds, in close vicinity of each other, combined with the rapid development of the South, in railroad building and manufacturing, all tends to the making of numerous large cities and the giving of large numbers of people employment.

In the western part of the state is a manufacturing district which is well supplied with water power.

LUMBER AND VARIOUS INDUSTRIES.

In the southern part of the state are forests of cypress, yellow pine and magnolia. Also the fig and pomegranite, olive, apricot and orange trees, grasses, the cereals and corn in the valleys. Cotton is raised in the northern parts of the state.

In the southern parts of the state are grown sugar, rice and some indigo. Tobacco is grown to some extent.

ALABAMA NORTH AND SOUTH.

From a circular entitled "North and South" we gather items of interest concerning different parts of the state.

While many people will be attracted to the southern counties of Alabama, to most people the northern part of the state is equally attractive.

"North and South" says, speaking of one of the northernmost counties:

"Lauderdale County, Alabama, must be a good county, or Andrew Jackson, 'Old Hickory,' would not have invested in real estate in Florence, as he did in 1818. 'Old Hickory' had traveled over all this Southern country, and had the reputation of **knowing a good thing** when he saw it, and one of the first things he did after reaching Lauderdale County, Alabama, was to buy some land. In those days the 'boom fever' caught the people about as it does now, and Andy was not exempt.

"Lauderdale County is in the **great 'Middle Belt'** half way between the North and South, avoiding both extremes as to heat and cold, and has many other advantages that make it a desirable place to live. It is seldom a county is found that offers as much as Lauderdale County does, both in agricultural and manufacturing advantages.

AS A FARMING REGION.

"As a farming section, Lauderdale is all that could be desired. They raise a **great diversity of crops** and the climate conditions are most favorable. Land can be bought from **$10 per acre up,** and while a bale of cotton to the acre is always considered a satisfactory yield, and sometimes less, a farmer near Florence, by giving his crop a little extra care, and by the liberal use of fertilizer, produced **two bales of cotton to the acre.** Cotton culture, however, is of little consequence to the Northern reader, who is as a rule unfamiliar with the methods of cotton growing, but looks to the growing of **corn and wheat** as his legitimate calling, for he knows more about the business.

A MILDER CLIMATE.

"Lauderdale County offers strong inducements to the man that desires to come to **a milder climate,** even though he does not wish to farm. The many factories, foundries, etc., in Florence offer the workingman something he cannot get in some Northern cities; that is, **work every day in the year,** if he wants it. A man can live for less, fuel costs him less, and there are plenty of other advantages offered here that are not to be found in the North.

ONE OF THE BEAUTIFUL CITIES OF THE SOUTH.

"Just above the head of the beautiful and broad Mobile Bay lies the **city of Mobile,** the second in age of all the cities on the Southern coast, as well as the second in size and importance. From her wharfs sail ships to all the ports of the world, loaded with cotton, coal, iron, lumber and naval stores. Mobile was the **first capital** of the French province, and so remained until 1763, when it became a British dependency. A few years later Spain became her master and only reluctantly gave way in 1813 to American troops sent over from New Orleans. No city in the South has shown greater progress in the past few years. **Innumerable large modern buildings** have been constructed. No city of like size anywhere in this country has better hotels. **The street car system** is exceptionally good, while the major portion of this city is well paved with asphalt and brick. Government Street, running from the business center of the city far out into the suburbs, is one of the finest residence streets in the South and has many handsome homes.

CLIMATE ONE OF THE PRINCIPAL ATTRACTIONS.

"The climate is one of its principal attractions—never too cold in winter, rarely damp and with an abundance of **warm sunshiny days.** Mobile has the distinction of being the **originator** of the carnival street parades and today vies with New Orleans in the beauty and splendor of the Mardi Gras display.

"Some of the finest deep and shallow water game fishing in the country is to be had in easy reach of Mobile, and the "snapper banks," near the Point, are noted for the immense numbers of finny inhabitants and their delicious flavor, while **tarpon, Spanish mackerel,** green trout, pompano and the game, fighting redfish are found in limitless quantities, while in the woods, not far distant, wild turkeys and big game abound for the sport of the hunter. The privileges of both the yacht and golf clubs are easily obtained by visiting tourists.

"There are beautiful places to be seen in and about Mobile; no more picturesque drive exists on the gulf coast than the famous shell road, which runs for ten or twelve miles along the crest of the bluffs under a green arbor of odorous magnolias.

A GREAT WINTER RESORT.

"The eastern shore of Mobile Bay has become as famous a winter resort as it was a summer resort in years gone by. With each returning winter a large number of tourists from the North, East and West visit this section and either rent cottages for the season or stay at one of the numerous hotels or boarding houses. Each day furnishes a round of sport and amusement. Fishing and sailing parties are of daily occurrence, while hunting parties go to the interior of Baldwin County after quail and wild turkey. The principal resorts on the eastern shore are Point Clear, Zundels Wharf, Battles Wharf, Montrose, Daphne and Fairhope. All of these points are reached by boat from Mobile. High bluffs follow the coast line nearly the entire length of the eastern shore, giving a magnificent, unobstructed view of the bay.

The shore line along the coast is broken by innumerable bays, rivers and bayous, and down these water courses immense quantities of timber find their way to the mills and to ports from which it is exported to the four quarters of the globe. The shipping is protected by the outlying islands and the peninsula of Florida jutting out as it does into the ocean breaks the severity of the Atlantic storms, and the immense losses sustained along the Atlantic seaboard and in Southern Florida are here unknown. The recent devastating West Indian hurricane, which wrought such great damage to the orange groves in Florida, caused scarce a ripple on the waters along the Riviera.

THE RIVIERA OF THE GULF COAST.

Extending from Mobile westward along the Gulf Coast to New Orleans are many interesting cities, which will be found described in connection with our description of other states.

"Tall thriving trees confess'd the fruitful mould;
The verdant orange ripens here to gold;
Here the blue fig with luscious juice o'erflows,
With deepest red the full pomegranate glows;
The balmy spirit of the western gale
Eternal breathes on fruit untaught to fail.
Each dropping pear another pear supplies,
On orange oranges, figs on figs arise;
The same mild season gives the blooms to blow,
The buds to harden, and the fruits to grow."

The fame of Europe's Riviera has been sung in song and poesy for many centuries. When the Londoner **tires of the damp fogs** and the Parisian finds the winds along his beloved boulevards too keen, they go to Southern France or Spain or along the historic and beautiful shores of fair Italy or Sicily for health, pleasure and repose.

Had the bard who voiced his appreciaiton of that fair country in the lines quoted at the head of this column been **residing in this country** he would have found the same inspiration where the waters of Mississippi Sound lovingly embrace the shores of Southern Alabama and Mississippi.

His description of the fair land along the Mediterranean fits this section like a lady's glove. Without the spiteful gleam of Vesuvius' treacherous fires; with no fear of earthquakes; no camorrist or black hand fuedists to levy tribute on the honest residents; with all of the charm of the European resort and none of its drawbacks, this surpassingly beautiful Creole Coast **can well lay claim** to be called the Riviera of America.

This coast has not the rugged mountain background of its Old World rival, but it has a restful and entrancing sweetness and beauty all its own.

Endowed with a superlatively glorious climate; peopled by the descendants of those gracious Southern cavaliers whose names were synonymous with courtly manners and superb hospitality; with a history reaching far back into the **romantic centuries** of the young republic's birth, across whose stage have stalked majestic Indians, swaggering swashbucklers, roving adventurers, daring explorers, and even lawless pirates, it is indeed a country worth while.

FOODSTUFFS FOR THE WORLD.

Above its towering pines the colors of many nations waved before our forefathers, with inspired outlook into the future, secured title to this fair land and unfurled the glorious stars and stripes and bade the foreign nations withdraw their governors and leave this coast in trust for the future rulers of the universe—the American farmers—who must furnish the foodstuffs for the world.

For many generations this has been the playground of the South. When the big crops of cotton were finally floated to the market in the antebellum days, the aristocratic planters were wont to foregather here and idle away the winter hours amidst the health-giving pines, fanned by the invigorating salt-laden zephyrs that the grand old ocean tempered by the warmth of the gulf stream and sent to the sun-kissed shores of this delightful land.

Here they would sit beneath gigantic oaks, all garlanded and festooned with wonderful growths of moss that had been gathering for untold ages and listen to the lisping laughter of the rippling wavelets that seemed but as the pulse-beats of the mighty ocean's great tides, gently caressing the pearly sands. The storm-tossed seas were **prevented from dashing** against the coast by the chain of islands that the Architect of the Deep has so benignly placed in the gulf a dozen miles from shore to form a natural barrier and protection.

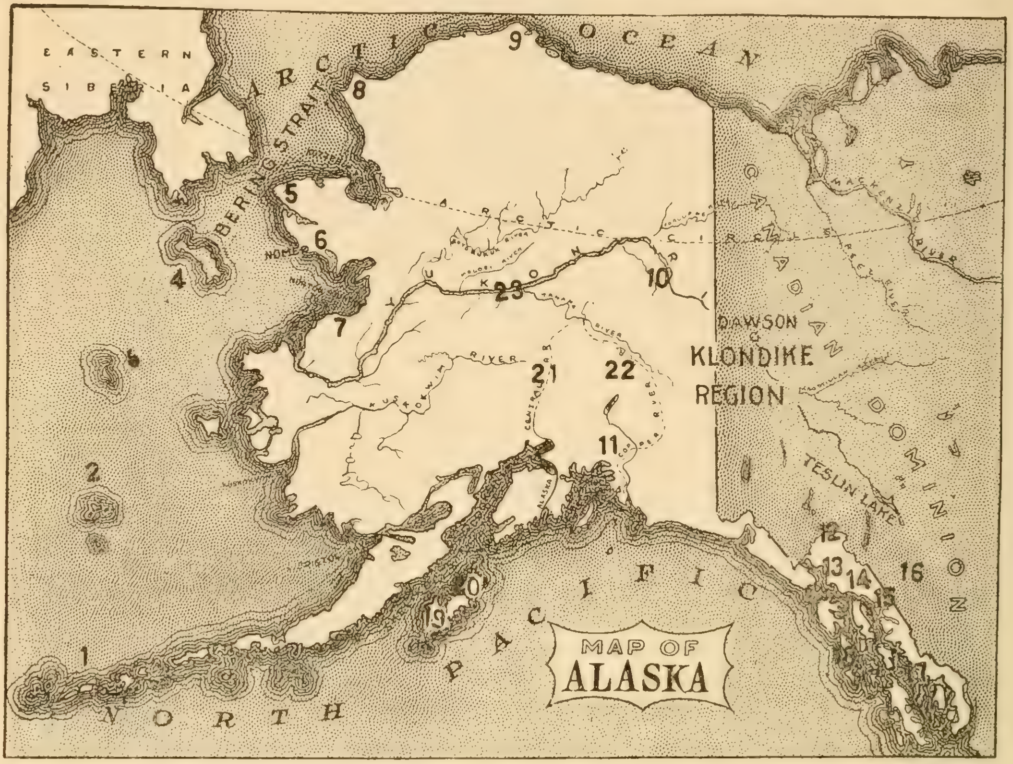
THE BATHING.

These islands also serve to tone down the ocean's waves, and no one who has not enjoyed the pleasure can realize the ecstatic enjoyment to be derived from the sea bathing in the waters along the Gulf Coast. **The water is shallow,** the beach hard. The water is always of a delighftul temperature. There are no big breakers that knock one down and roll them along the beach. No life lines are necessary, undertows are practicaly unknown and the life savers who are so prominent at the resorts on the Atlantic coast are never seen here.

The Territory of the Great North, a United States Possession

ALASKA

Having the Largest River, the Deepest Frozen Ground, the Longest Sunshine Days, the Highest Mountain—A Region of Unknown Possibilities.



BORDER LAND OF THE ARCTIC SEA.

An Undeveloped Region Rich in Precious Metals. Figures Herewith Indicate the following: 1 Dutch Harbor; 2 Pribilof Islands; 3 St. Matthew Island; 4 St. Lawrence Island; 5 Cape Prince of Wales; 6 Nome; 7 St. Michael; 8 Coal Mines; 9 Point Barrow; 10 Circle; 11 Valdez; 12 Skagway; 13 Muir Glacier; 14 Juneau; 15 Wrangel; 16 Sitkeen District; 17 Waterway Seattle-Alaska; 18 Sitka; 19 Karluk; 20 Kadiak; 21 Central Alaska R. R.; 22 Copper River R. R.; 23 Yukon River.

POPULATIONS.

The 1910 Census gives Cape Prince of Wales Settlement, (5), a population of 396; St. Michael, (7), 857; Circle, (10), 230; Eagle, 458; Karluk, (19), 447; Kadiak, (20), 341; Treadwell, (14), 522; Wrangel, (15), 868; besides populations we mention elsewhere.

Alaska, region first visited by Bering in 1732. Bering was a Dane who belonged to the Russian navy. In command of a fleet he was sent out by Peter the Great of Russia, to explore the Arctic Sea and Strait, afterwards named for him.

Alaska Territory was purchased from Russia in 1867 for $7,200,000, the purchase being negotiated by Wm. H. Seward, then U. S. Secretary of State. Area of the territory, 577,300 square miles, aggregate area of the islands in the territory, 8,194 square miles. Length of territory 1,100 miles, width 800 miles. Length of sea coast estimated at 26,000 miles

Acres in Alaska surveyed, 7,125; acres unsurveyed, in 1910, are 368,028,975.

Capital of the Territory, formerly Sitka; is now Juneau.

Comparative Size. Alaska is two and a half times as large as Texas. It is eight times as large as all New England. It has the highest mountain, Mt. McKinley, in North America. Mt. McKinley 20,300 feet. It has the greatest seal fisheries, greatest salmon fisheries and largest river—the Yukon. Standing on its bank, 150 miles from its mouth, the opposite bank cannot be seen. It is 20 miles wide 700 miles from its mouth. With its tributaries it is navigable for 2,500 miles. It discharges one-third more water than the Mississippi.

Number of reindeer in territory, 8,194.

AGRICULTURE AND TILLABLE LAND

Agriculture is yet in its beginning in Alaska. Aided by greenhouses, which will start plants in the spring, it is probable that horticultural products will become a source of large profit adjoining the cities and villages of the country.

The Summer Sun of 90 degrees above, and 18 and 22 hours of sunshine, during the day, so warms the soil as to permit the growth of grasses, berries and the ripening of various kinds of vegetables, during the three months from June 15 to September 15.

TILLABLE LAND IN ALASKA

Tillable land, in southern Alaska, is estimated at from 2,500,000 to 3,200,000 acres. In the Yukon district at 460,000 acres.

Grasses are the most valuable plant products, including timothy, Alaska red top, blue grass and orchard grass. Wild barley and rye flourish.

Berries of fine flavor grow abundantly in the Yukon district.

Alaskan Facts

At Eagle, 110 miles from Dawson, and lying 5 miles in American territory, the gardens produce and mature potatoes, cabbages, cauliflower, lettuce, turnips and radishes. Other vegetables, peas, beans, etc., are also being grown. Barley, oats and flax mature perfectly at Sitka.

The number of growing days there is given at 122. At St. Michaels, killing frosts occur from September 2 to 22, giving 106 growing days. Average annual temperature here is 26 above. Summer temperature reaches 77 above and winter 55 below.

At Eagle, on the Yukon river, ice begins running from May 4 to May 16. The river is clear of ice by May 19 and closes by October 10.

KLONDIKE TOWN—LARGE PERMANENT IMPROVEMENTS

Dawson has a permanent resident population of about 7,000, a school house costing $40,000, public buildings which cost $250,000, and two daily newspapers.

DISTANCES GOING TO ALASKA

In going to Nome by water, across the Pacific ocean, the route leads from Seattle to Dutch Harbor, one of the Aleutian Islands. Distance from Seattle to Dutch Harbor. 2,100 miles; time 8 days. From Dutch Harbor to Nome, 800 miles; time, 3 days. Fast boats may go in less time. From Seattle to Skagway, by water, 1,000 miles; time, 4 days. From Skagway to White Horse, by rail, 112 miles; time, 10 hours. From White Horse to Dawson, by Lewes and Yukon rivers, 450 miles; time, 2 days.

From White Horse to Dawson, in winter, passengers are conveyed by sleighs. Each sleigh will carry nine passengers. Frequent road houses occur on the way. From Dawson to Eagle, 110 miles. From Eagle to U. S. line, 5 miles. From Seattle to St. Michaels, by way of Dawson, 2,988 miles. Nome is 120 miles from Cape Prince of Wales. It is proposed to tunnel under Bering Strait from Cape Prince of Wales to Russian territory, a distance of about 50 miles, the tunnel to an island midway in the strait being about 25 miles in length.

Owing to a strong current always flowing northward the strait is never, or seldom ever, frozen over in the winter. The depth of water here averages from 120 to 180 feet.

Expense of going to Alaska from Seattle to Nome, via Pacific Ocean, is from $30 to $125. Freight costs from $7 to $22 per ton.

Passenger fare from Seattle to Dawson, by way of Skagway, $80. Returning from Dawson to Seattle, by way of Skagway, $100. The journey **up** the river from Dawson to White Horse requires more time and is more expensive than in going **down.** One of the leading transportation companies charges $250 for passage to Nome via Skagway, White Horse and St. Michaels, returning to Seattle, the place of starting, by boat, via Dutch Harbor.

Gold. The annual output of gold in the territory is from $6,000,000 to $7,500,000, two thirds of which has latterly come from Nome.

FACTS ABOUT ALASKA GOLD

Klondike gold varies in size and appearance from particles of Indian meal up to grains of rice. For purpose of transportation it is melted and run into oblong form about the size of ordinary building brick.

Ice. As ice breaks up in Bering Sea about June 15 and closes interior Alaskan ports about October 10, it is seen that freight for this point must be received and removed within a period of a little over three months.

DEPTH OF GROUND NOT FROZEN

With summer days, filled with warm sunshine from 18 to 22 hours, each 24 hours, the ground thaws to a depth of about two feet from the surface. From that depth downward, a depth of 95 feet, the earth is frozen solid.

Ice closes navigation on the Yukon river by October 10, and continues usually until May 20, of the next year.

Juneau, named from Joseph Juneau, a mining prospector, the capital of the territory, is the location of the Alaska Land office, and has a varying population of about 2,000. Parties desiring to engage in agriculture, mining or to obtain government land in the territory, will address the Land Commissioner at Juneau. In going into the interior of Alaska by the Skagway route it is well to stop off for a time at Juneau and gather general information about the country.

Mining in Alaska. Up to the present time the most of the gold taken from Alaska has come from the top soil. The Treadwell quartz mine at Juneau is one exception. This mine, which a San Francisco builder named Treadwell, took for a debt of $150 when it was a mere prospect hole, now employs 1,200 workmen and runs 80 stamps.

Hundreds of millions in gold are supposed to be hidden in the rocks of Alaska, and when exploring enterprise opens this wealth to the world, the great influx of population will begin and the area of Alaska's prosperity will commence.

U. S. MINING REGULATIONS AND BRITISH

While the resident of Alaska must be a citizen, or have declared intention to become a citizen, before he can secure a mining claim, British law in the Klondike will permit the miner to obtain a claim without being naturalized. A certain amount of development work is required, however, or money deposited each year, to hold a claim.

Nome. This town has a resident population in winter of 2,500 and 6,000 additional in the summer. There are in the summer, also, from 12,000 to 15,000 people scattered about on this peninsula where Nome is situated. The inhabitants of this town and vicinity get their supply of outside news from two semi-weekly newspapers published in Nome.

Nome has no harbor, and seagoing vessels cannot get within one mile of the coast. If rough water prevails, passengers sometimes have to wait several days before they can be taken ashore by lighters, which come out from Nome to take off passengers and freight.

Postal facilities. During the winter period of eight months the mail comes into Nome by dog team from Dawson, and as the mail cannot exceed 400 pounds in weight, no newspapers or magazines from the outside world can be received within that time.

Roads. A determined effort is being made to provide the Yukon district with good roads, the British government assisting in the enterprise. Aided by motor carriages this will greatly assist in opening the country long before the advent of railroads. Hundreds of miles, radiating from Dawson, are to be laid out and improved in the near future.

As the fall of snow is light and what falls lies steadily on the ground, people will soon be traversing the country with motor sleighs.

Routes to Alaska. While Skagway with its population of 1,200 is as yet the best entrance into the Yukon country, it is probable that Valdez and Cordova, located on Prince Williams Sound, will become towns of much importance and two of the main points of entrance to the interior of the country.

Valdez has a population of 1,000 and is the point furthest north, having an excellent harbor which is not closed by ice in the winter. Railroad building has begun from Cordova which is the starting point of the Copper River Line.

To test agricultural possibilities thoroughly, the United States government gives the settler 320 acres of land under homestead conditions.

AGRICULTURAL EXPERIMENT STATIONS

The possibilities of this region in the growing of food stuffs have yet to be more fully tested. Agricultural experiment stations have been established at Kanai, Cooks Inlet and at Sitka, and these, with stations which will be started in the interior of the country on the Yukon, will show what can be grown.

Climate. Dawson and other points in the interior of Alaska. The thermometer shows summer at 90 above, and winter's cold at 60 and 70 below. The air is still and dry at that temperature and is no more uncomfortable than when the thermometer shows 20 and 25 in the States.

The Japanese current modifies the temperature along the southeastern coast up to Cook's Inlet. At Sitka the temperature ranges from 85 above to 4 below. Barley, oats and flax have matured here and at Skagway perfectly.

The rainfall along the southern coast is about 100 inches a year.

Controller Bay. Is in an extensive region of United States government possession, southwest of Valdez, which has large coal deposits. In order to get out this coal the government has been disposed to sell tracts of land where it lies to capitalists who have the means to mine it. The result is a company has started to build the Copper River railroad which leads to the mines, the town of Cordova, at the terminus of the railroad, containing several hundred people has sprung up, and hope has been expressed that the incoming of capital would tend to the development of Alaska. At this period 1911, the government is being criticised for selling its valuable coal beds to a private syndicate, it is alleged, to the detriment of others who would like to take out and ship coal to the various towns on the Pacific Coast. The outcome of the controversy will probably be the renting of the coal lands on such favorable conditions as will induce capital to open the mines and pay a royalty to the government on each ton of coal taken out and shipped away.

STATE AND THE 14 COUNTIES OF ARIZONA

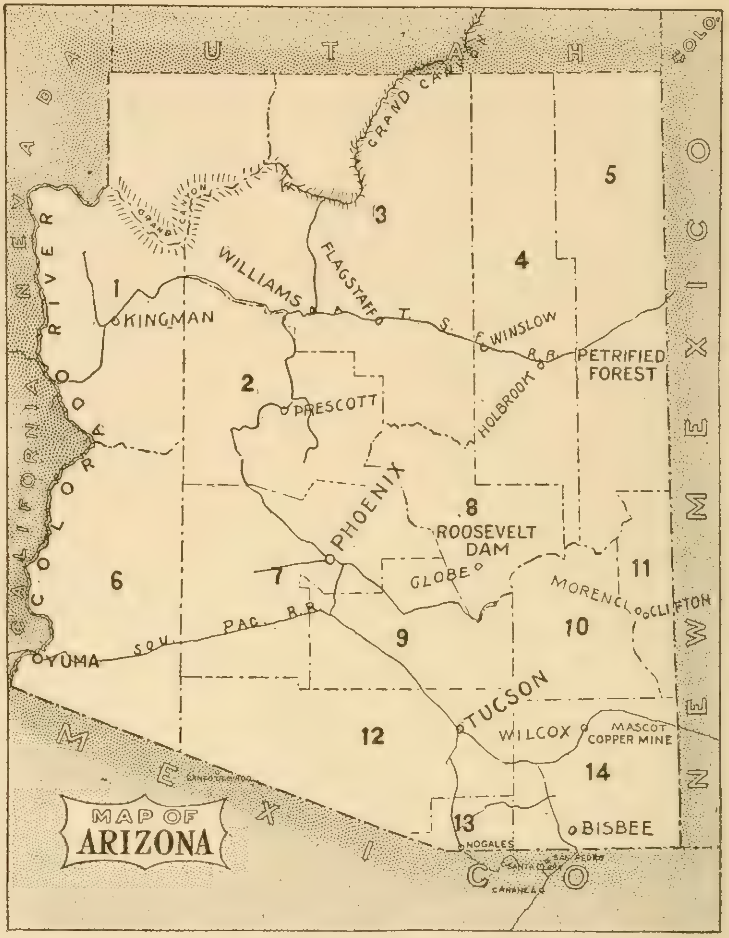
With Their Boundaries

Location and Population of ARIZONA COUNTIES

Location	COUNTIES	Pop. 1910
1	Mohave	3,773
2	Yavapai	15,894
3	Coconino	8,130
4	Navajo	11,491
5	Apache	9,196
6	Yuma	7,733
7	Maricopa	34,488
8	Gila	16,780
9	Pinal	9,045
10	Graham	23,547
11	Greenlee	
12	Pima	22,818
13	Santa Cruz	6,766
14	Cochise	34,591
	Total	204,354

CITIES AND VILLAGES OF ARIZONA.

Having Population of 100 and Over in 1910.



Arizona Towns with 1910 Populations Having 100 People and More.

Towns	*Loca.*	*Pop.*
A		
Agua	7	100
Alhambra	7	200
Arivaca	12	100
Arlington	7	100
Ashfork	2	150
B		
Bellevue	8	100
Benson	14	909
Bisbee	14	9,019
Blackwater	9	250
Bowie	14	214
Bronnell	12	231
Bryce	10	271
Buchan	7	445
C		
Camp Verde	2	381
Canille	13	237
Casa Blanca	9	1,284
Casa Grande	9	334
Cave Creek	7	114
Central	10	345
Cerro Colorado	12	219
Chiracahua	14	203
Chloride	1	465
Christmas	8	223
*Clifton	11	4,874
Cochran	9	117
Columbia	2	124
Combabi	12	251
Concho	5	261
Congress	2	578
Constellation	2	256
Copper Creek	10	116
Cottonwood	2	127
Courtland	14	581
Crowley	8	157
Crown King	2	211
D		
Dome	6	100
Don Luis	14	255
Douglas	14	6,437
Dudleyville	9	100
Duncan	11	1,281
Duquesne	13	156
E		
Eden	10	541
Esculla	12	218
F		
Fairview	10	218
*Flagstaff	3	1,613
*Florence	9	807
Fort Apache	4	255
Fort Huachuca	14	421
Fort Thomas	10	151
Fortuna	6	605
Franklin	11	100
G		
Gila Bend	7	210
Glendale	7	257
*Globe	8	7,087
Groom Creek	2	317
H		
Hackberry	1	118
Hamburg	14	157
Harshaw	13	100
Hayden	8	417
*Holbrook	4	421
Hubbard	10	112
J		
Jerome	2	2,393
Jerome Junction	2	100
K		
Kelvin	9	115
*Kingman	1	1,000
L		
Lehi	7	331
Liberty	7	157
Lowell	14	2,500
M		
McCabe	2	314
Mammoth	9	473
Matthews	10	218
Matthewsville	10	224
Maxton	2	207
Mesa	7	1,692
Metcalf	11	2,511
Miami	8	741
Middlemarch	14	100
Mohave City	1	182
Morenci	11	5,010
Mowry	13	531
N		
Naco	14	231
*Nogales	13	3,515
O		
Octave	2	500
Owens	1	384
P		
Paradise	14	117
Parker	6	410
Pearce	14	718
*Phoenix	7	11,143
Pima	12	571
Pine	8	100
Pinedale		
Pinetop	4	116
Pirtleville	14	1,520
*Prescott	2	5,092
Q		
Quartzsite	6	318
R		
Rice	8	385
Roosevelt	8	871
Rosemont	12	175
S		
Sacaton	9	251
Safford	10	929
Saint David	14	574
*Saint Johns	5	1,211
San Carlos	8	3,065
Santa Cruz	13	104
Sasco	9	311
Show Low	4	131
Siverbell	12	714
Snowflake	4	521
*Solomon	10	629
Springerville	5	511
Superior	9	208
Swansea	6	409
T		
Tempe	7	473
Teviston	14	208
Thateher	10	904
Toltec	9	109
*Tombstone	14	1,582
Toreva	4	551
Troy	9	200
Tubac	13	318
*Tucson	12	13,193
Twin Buttes	12	314
W		
Walker	2	153
Warren	14	175
Wellton	6	218
Wendon	6	160
Wickenburg	7	570
Willcox	14	581
Williams	3	1,267
Winkelman	8	471
Winslow	4	2,381
Y		
*Yuma	6	2,914

The New State of Arizona. Admitted to the Union in 1911

ARIZONA

Large Territory in Southwest Portion of the United States. Inducements Offered to New Settlers in Arizona

Arizona, including a State of 113,916 square miles, was first visited by Spanish explorers in 1538. The Gulf of California, the Colorado and Gila rivers were discovered in 1542, and two boats ascended the Colorado to the Grand Canyon.

By treaty with Mexico in 1846 all that portion of the present State north of the Gila river was ceded to the United States. At that time the white population included but a few hundred in the vicinity of Tucson, there being no whites in the central and northern parts of the territory.

THE GADSEN PURCHASE.

In 1854 the Hon. James Gadsen, then minister from the United States to Mexico, negotiated the purchase of the territory lying between the Gila river and Sonora, Mexico, for $10,000,000, that addition to the territory being known as the "Gadsen Purchase." This purchase added to the United States 30,000 square miles of territory, an area about the size of South Carolina. At that time the Southern Pacific railroad was in contemplation and was afterwards built on this territory of the Gadsen purchase.

The face of the country in Arizona consists largely of high broad plains, the elevation of more than half of the territory being above 5,000 feet.

The principal river, the Colorado, noted for its Grand Canyon, is 2,000 miles in length and navigable 400 miles for boats of light draft. The Gila, another large river of the State, is about 500 miles long, four-fifths of this stream being in Arizona. The Salt, Verde, Black and other rivers empty into the Gila river.

Gila Monster. Speaking of Gila reminds us to explain that the "Gila monster," of which we sometimes hear, is simply a large lizard found in the sands of New Mexico, Arizona and Texas, and is harmless so far as human beings are concerned, though its bite, which is poisonous, is said to be fatal to small animals.

The climate is tropical in the southwestern section of the State, temperate in the valley regions and frigid in the mountain districts in the winter season. The air is dry and clear.

Rainfall.. The average annual rainfall in the upper portion of the State is 16.1 inches. In the southern part only about 3 inches.

Agriculture here becomes important, therefore, in proportion as artificial waterways are extended. The area of Arizona farming land includes 1,000,000 acres, of which about 200,000 acres are now under cultivation.

With a sufficiency of moisture all the products of the sub-tropics are grown here in abundance. The future of this region in agriculture, depends upon irrigation, which capital and engineering ability will, in time, supply, and is already supplying, as seen in the Salt river project in Miricopa county, which we describe elsewhere.

Much of the general situation in Arizona may be known from the following:

ARIZONA IN OUTLINE.

A Grand Field Rich in Mining and Agricultural Possibilities.

Not only are there thousands of square miles of mineral lands in this State yet unexplored but in no part of the world are there to be found a greater number of natural curiosities than are to be seen in this region.

Entering Arizona from the west, on the Santa Fe railroad, the tourist may change cars at Williams and go north sixty-four miles to the Grand Canyon, and the greatest natural curiosities in the world.

The Colorado river has cut a channel in the soft rock for a distance of over 200 miles, sinking so low in the rock as to make the sides of the chasm rise perpendicularly at some points on either side to a height of **over one mile.**

The general government has set aside, in the northern part of Mohave county, 2,893 square miles of area as a national park, in a portion of which is the Cataract Canyon, at which point it is wisdom for the tourist to remain for several days, going out sight-seeing from the well-kept hotels which the guest finds on arrival here.

MANY NATURAL CURIOSITIES.

Numerous points of interest claim attention in this region beside the rocky canyon, among them being the San Francisco mountains and the plateau in the midst of a desert, while the varied scenery of plain and mountains, which rise up here twelve and thirteen thousand feet, add sublimity to the scene.

Petrified Forest. To see other very interesting features of the State, the tourist returns to Williams and goes eastward by rail to Holbrook, only a few miles from which station are the great Natural Bridge in Navajo county and the world-famous petrified forest, covering a tract of about 2,000 acres, once heavily timbered, which geologists surmise, in the rise and fall of the earth's crust from volcanic upheavals, may once have been in the bottom of a great inland sea. Again, in another epoch, covering possibly thousands of years, this sea may have receded, an earth may have formed above these monarchs of the forest, to be washed away from this plain by the floods that followed in the subsequent centuries; and here at last these giants of a vast prehistoric age lie glistening in the sunshine, mute evidences of great changes on the earth's surface when the world was young.

The stranger in gazing on this remarkable scene can only wonder what unexplained phase of nature changed these trees into such beautiful precious stones, including chalcedony, topaz, onyx, cornelian, agate and amethyst.

What a remarkable forest it must have been in the olden time to have grown these great trees 150 and 200 feet in height and, at largest parts, 10 feet in diameter.

In this petrified forest are gems enough to supply the world. The wonders of Egypt are as nothing compared with this vast forest turned to stone.

Cliff Dwellings. All over Navajo county are the ruins of prehistoric cities. In Apache county the remains of cliff dwellings are never failing objects of interest to the curiosity hunter and archeologist. Days and weeks can be passed here in a study of cliff dwellings and the remains of acqueducts, constructed for the purpose of irrigation by a people thousands of years ago.

It is impossible to go by rail and visit the interesting points in Arizona without retracing our steps at some points on the journey. Before leaving this region, however, we visit a remnant of a tribe of cliff and cave dwellers who live in a wild retreat known as Cataract Canyon, a class of people found in no other part of the world, a race of human beings who represent the age before history began, primitive man, a living picture of what our ancestors were perhaps 50,000 years ago.

Returning westward, we stop at Flagstaff, a town so named from the fact that a government expedition, many years ago, camped at this point on the Fourth of July, trimmed up a tall pine tree and floated a flag from its top. The name was thus given to the place before a house was erected in the town.

OF GREAT INTEREST TO LUMBERMEN.

Flagstaff is located on the edge of a vast pine forest in which it is estimated there are billions of feet of lumber. Landseekers interested in the lumber business should understand that thousands of acres of superior pine are waiting here for the incoming of enterprising lumbermen.

The journey is continued westward and a stop made at Prescott. This is a central point for the mining interest, but is only one of the important mining centers of the State.

Arizona Opportunities in Agriculture and Varied Enterprises

The Clark Copper Mine. Southward from Prescott, some thirty miles, is the copper mining section of the United Verde District at Jerome. It is here where Senator W. A. Clark has acquired a part of his large fortune. The claim is made that the United Verde mine has yielded for several years, and now gives a profit of $9,000,000 a year.

As the digging of precious metals out of the earth is a most fascinating work, and as Arizona has many mountains throughout the entire State in which there is vast treasure yet to be explored and developed, the landseeker in search of good opportunity for investment in mining will wish to know something about prospects here. In explanation it may be said that no brief article can do this subject justice.

The air here is full of mining intelligence and news of new discoveries being made every week, but to verify reports and fully understand the subject the inquirer should spend a good deal of time right here on the ground.

PROFITS IN COPPER MINING.

Published reports give the following:

The "Fortuna" mine, 27 miles south of Yuma, has paid $50,000 profit each month for several years.

The "Pearce" mine, in Cochise county, near Sulphur Springs, has given $20,000,000 to its owners in the past eight years.

The "Bisbee" mine, in Cochise county, has paid $20,000,000 in dividends to its stockholders in the past 20 years.

The "Vulture" mine, 60 miles from Phoenix, though hardly opened yet, has already turned out $10,000,000 in profits.

THE OPENING OF A COPPER MINE.

To people who have never seen the opening and development of a copper mine it will be interesting to visit the Mascot Copper mine, located 16 miles east of Wilcox, Cochise county, in Arizona, on the side of the Dos Cabezas mountains. Prospectors years ago discovered this mine, had specimens of the ore assayed, learned that the ore carried a certain per cent of gold and silver along with copper, sold out the property to a syndicate of capitalists, who incorporated a company capitalized at $10,000,000, shares being placed at $10 each.

Knowing that a good copper mine holds out for a lifetime, investors have bought shares fast enough to keep a force of men at work since the beginning, uncovering the ore and doing preparatory work at an expense of several thousand dollars per month, making ready for sending the ore by gravity down to a smelter in the valley below.

Visitors are not only made welcome but they are transported from Wilcox to the mine by automobiles, are given an interesting country ride and an opportunity to investigate copper mining, which is one of the great industries of Arizona. Our map shows the location of the Mascot copper mine.

AGRICULTURAL POSSIBILITIES.

The ultimate source of great wealth in this region will be agricultural production.

Arizona is blessed with a delightful climate. There are numerous elevated plains in the upper part of the State where the weather is cool and frosts prevail in the cold seasons of the year, but in the southern part of the country the climate is such as will produce in perfection oranges, dates, figs, lemons, olives and peaches several weeks earlier than can be given in other regions of the same latitude. The possibilities in fruit culture are shown in the strawberry, which, by attention, can be kept in bearing here for eight months in the year.

As the average rainfall of the entire State is but about 7 inches a year, the universal want of the country is irrigation—more water for growing crops.

ANCIENT IRRIGATION WORKS HERE.

It is clearly evident that the inhabitants of this region, in the remote past, overcame this difficulty by aqueducts. The engineering talent of the present age will, in similar manner, surmount this trouble.

Arizona is so large in area and so diversified in opportunities for the land seeker in lumbering, mining, ostrich raising, dairying, fruit growing or poultry enterprise we know not what to particularly describe.

It should be understood that Arizona has many regions where delightful homes may be made and fortunes acquired.

We will let Mr. E. J. Bennitt, of Phoenix, tell about a single section. This is but one. There are many others.

STORY OF AN AUTO RIDE

By E. J. Bennitt.

"I wonder if, after all, it will prove a fool's errand?"

Thus Jacob Harris queried himself, seeking, yet expecting no answer, as he seated himself comfortably on a plush cushion and looked out of the car window. Of mature years, spent mainly in the Middle West, he had acquired a modest competence for his family. But the long, cold winters, during which he suffered exposure in the protection of what he was able to acquire in the fruitful summer seasons, were sapping his vitality. He dreaded the inclemencies and chances of crop failure that, any season, might reduce his savings to a minimum. He had seen some literature of the Salt River Valley and had been induced to spend a few dollars in personally investigating the seemingly fairy-tale claims. "I will never be a rich man anyway," he mused, "and perhaps I ought to let well enough alone."

"Phoenix," announced the conductor, and an hour later Jacob Harris was in conversation with a Phoenix real estate dealer to whom he had been recommended. A tour of the valley was arranged to begin the next morning, and the rest of that day was devoted to sizing up the city, visiting the Phoenix Board of Trade, examining the maps of the county and territory, the exhibits of fruits and products, and inquiring of those he met concerning the crop returns of the many products raised in the valley. He had read all this in the literature, but knowing the world pretty well, knew that what the Arizona people wanted was the investment of his money. He did not doubt their honesty, but he knew the vision of the immigration agent is sometimes distorted. He wanted to know what others, who had been enticed to Phoenix before him, had to say about it. And what they said fully verified what he had read. In the afternoon he climbed the court house tower where he secured a panoramic view of the valley. Spread around him lay a modern city of 18,000 inhabitants, and beyond, stretching away over on area of 100,000 acres were green fields, comfortable farm houses and miles of tree-lined country roads, a community that, with Phoenix for its center, numbers approximately 23,000 people, served by the Phoenix postoffice and its 100 miles of rural routes. Northwest some ten or twelve miles, are Glendale and Peoria and sourrounding farms, numbering several hundreds of inhabitants. To the east, and across and up Salt River, beyond the line of vision, lay Tempe and Mesa, nine and seventeen miles away, respectively, the commercial centers of another 100,000 acres of land, equally as rich and as well suited for agriculture as that before him.

THE VALLEY A PARALLELOGRAM

Jacob Harris noted that the general form of the valley is a parallelogram, averaging 20 miles wide and 40 miles long, hedged in by mountain ranges that rise abruptly from the valley plain. Entering at the northeast corner, where the Granite Reef Diversion Dam is located, Salt River winds sinuously in a generally direct course to the southwest corner of the valley, and thence onward 100 miles further to its junction with the Colorado. Crossing the valley diagonally, the river leaves Phoenix, Scottsdale, Alhambra, Glendale and Peoria, on what is known locally as the "north side," and Tempe, Mesa, and surrounding lands on the "south side." Looking toward the site of the Granite Reef Dam again, twenty-three miles away, he learned that fifty miles further up the river, through an impassable canyon, is the site of the Roosevelt Storage Dam, now nearly complete, at the junction of Tonto Creek and Salt River. This dam will form a storage basin, making the largest artificial lake in the world.

It would take too long to tell what Mr. Harris saw in the foreground—the city of Phoenix. It is all told in the literature of The Phoenix Board of Trade & County Immigration Commissioner, which is supplied for the asking. The story is of a modern city of brick houses, churches, schools, railroads, parks, the territorial capitol, and all public utilities. Mr. Harris returned to the hotel, tired and hungry, his head already crammed with information that was rolling in on him like a tidal wave. At the hotel that evening he met an engineer of the reclamation service. Before he knew it, he was listening to an outline of the reclamation plan and irrigation system.

Jacob Harris went to bed also, impressed but still doubtful. He wanted to see some of that "desert" land. This was all "town talk" and it seemed too good to be true. He yearned to hear an inharmonious chord and even a "knocker" would have been welcomed.

Early next morning he was whirling away in an automobile with the realty agent. They passed the seven fine brick school buildings in Phoenix and the territorial capitol **costing $130,000,** without suspicion of a penny of graft, standing in the midst of a beautiful park of green lawns and thousands of varieties of shrubbery. Continuing, they speed through the residence sections of the city, fronted by attractive street parks, and then—to the country. Out Grand Avenue a mile and a half they came to the Territorial Fair Grounds, where three annual exhibitions had been given, equal to the big eastern state fairs. The corporation has a balance in the treasury and the best mile track west of Memphis. They traveled straight west ten miles, passing small ostrich farms, finally arriving at the largest one in the United States, containing about 1,900 acres, where hundreds of these valuable birds are grazing in alfalfa pastures. Mr. Harris learned that the valley has three-fourths of all the ostriches in America and they are money makers.

THE SUGAR-BEET DISTRICT

Seven miles north found them in the Glendale-Peoria country, as rich a sugar-beet and general farming soil as can be had anywhere. Half of it is cultivated; all will be soon. Thence east through the town of Glendale and on to the big mill of the Arizona Sugar Company, that cost approximately a million dollars to build. Straight east, for six miles more, the party traveled through equally as rich a country until Central Avenue was reached, that being a boulevard that runs ten miles due north from Phoenix to the Arizona Canal. Down the avenue with orchards, grain fields and farm homes all around. Three miles from Phoenix they arrived at the government Indian school, a collection of fine buildings that would put many state universities to shame, where are being fed, clothed and educated in grammar courses and manual training, a thousand native children. From this point the auto turned east for seven miles, through farms and orchards to the heart of the orange belt.

Thence the machine was headed for the "south side," crossing the river at Tempe, a beautiful city of 1,500 inhabitants, with the territory's chief normal school and grammar and high schools. Adjacent is the Lily Brand condensed milk factory, affording a fine market for dairymen. Six miles east of Tempe is the town of Mesa, with about the same population, also with fine homes, stores, banks, churches, schools, and high school, creamery, vineyards, orchards, etc. Lying directly south of a line through Tempe and Mesa is an agricultural area ten miles square, all titled land, and as good as any in the valley, but only partly in cultivation, for want of sufficient settlers. Its possibilities are everything agricultural and horticultural and the prices are lower, as it is the latest section of the valley to be settled.

After a ten-mile spin through that region, the machine went flying Phoenixward, the most notable institution passed on the way being the territorial asylum for the insane, three miles from Phoenix. After traveling through seventy miles of orchards of citrus and deciduous fruits, olives, alfalfa pastures, oat, barley and wheat fields, corn, sorghum, cantaloupes, watermelons and other acreage crops, strawberries and truck gardens, by country and city creameries and public institutions, Mr. Harris was set down at his hotel.

He had marveled from the first at all the good things he saw, but the question on his mind was: "What is there for the poor man and where will he find his 'desert' land for homesteading?" Long before his trip was over he learned that there is no "desert" land as the easterner speaks of it, and no possibilities for homesteading within the reservoir district, but that there is plenty of titled land, unimproved, at $50 an acre. It is not a "cheapland" country, except relatively speaking, but it is a "goodland" country whose produce pays interest and big profits on a high valuation. He was reminded that half the ranches he had passed had from 100 to 300 acres in them, and he needed no telling that twenty acres is ample for any man to farm who does his own work. The secret of it is that the Government builds reservoirs for settlers, not for speculators. The poor man's opportunity is to buy a farm from the excess holdings of some earlier settler, in an ideal climate and community, with the advantages of the most modern and comfortable surroundings, and take up life not as a pioneer but as a country gentleman, moderately well-to-do and independent.

Jacob Harris is now an enthusiastic Salt River Valley rancher and can testify that he did not come here on a "fool's errand."

WHAT CAN BE DONE WITH $2,000

By J. W. Spear.

The man with $2,000 can do any one of a long list of things which, with ordinary fortune and judgment, will return much more than interest. It is assumed that the question is asked in behalf of those who have no remunerative occupation, and with their capital propose to be independent, thus narrowing it to an agricultural proposition.

Good land costs from $75 to $250, including irrigation water. Assume the middle ground of $100 per acre. Buy fifteen acres. Pay for it $1,000 cash and mortgage for the rest, placing the other $1,000 in the bank to draw upon for the first year's support and for necessary equipment. Utilize credit as far as possible with safety and assurance of meeting obligations. Begin in the fall. Build a small, comfortable house until able to build a better one—say a $400 mansion, unless you are single, then live in a tent. Some credit could be secured on the house. Procure team, wagon, plow, and other needfuls. Establish an account at the grocery store. Plant almost anything you like that will grow in the latitudes between Milwaukee and New Orleans, preferably, for early revenue, truck, etc. Later you may decide that a ten-acre orange orchard is what you want with five acres of truck; but as it takes six or eight years for oranges to make returns of consequence, and in the interim only the space between rows can be utilized, wait for oranges until you have more money.

A LITTLE LAND WELL TILLED

Put five acres into deciduous fruits of various kinds. In the months that follow plant between trees for a year or so, vegetables for family use and market. Later do not use for other things soil vitality that belongs to the trees. Plant an acre of strawberries. There will be some return the first year, a big yield the next. An acre of asparagus will be a money-maker if you know how. James Davis, of Mesa City, made $60 on one-eighth acre of green peas, marketing them in February. He says he can raise beets the year round, returning $400 per acre at from 1 cent to 3 cents per pound. He realized $130 from one-quarter acre Irish potatoes, an exceptional result; but he knows the truck business.

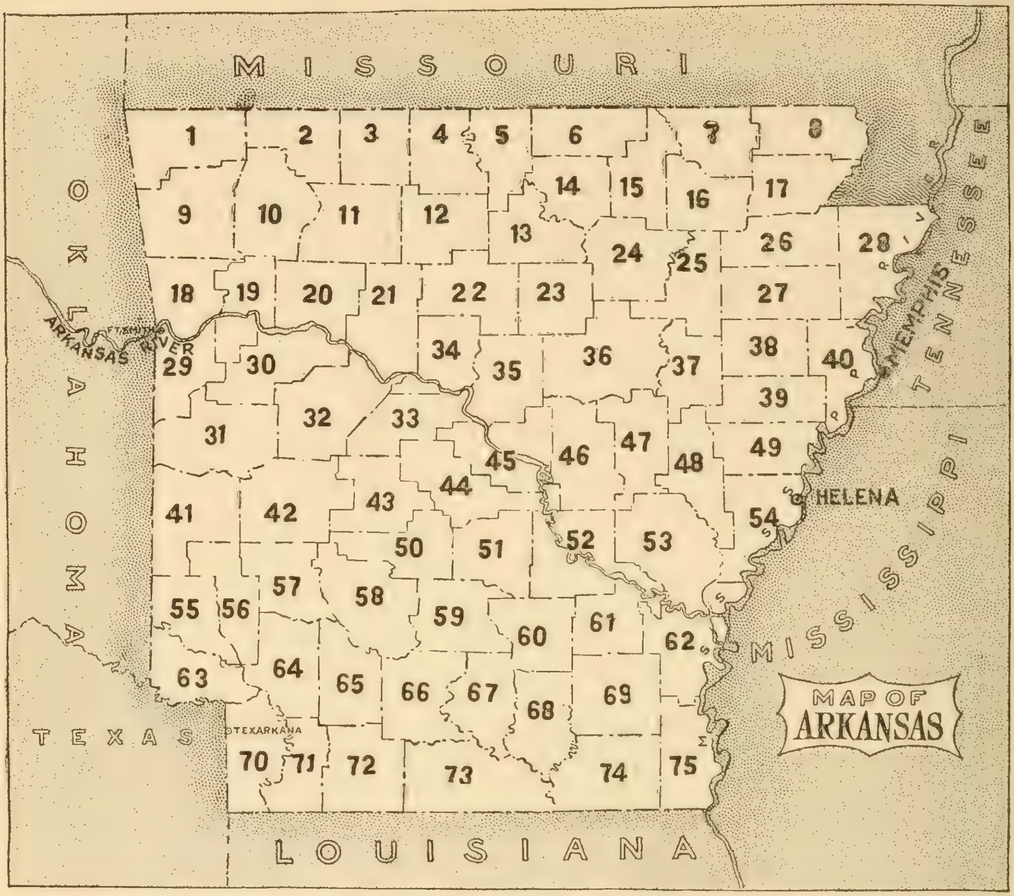
Put in two acres of alfalfa for the horses. You still have about five acres for cantaloupes. Plant in March, harvest during July. Many small patches have returned net, except for owner's labor, $200 per acre; some more than $300. Plant sorghum or some other crop to follow cantaloupes. One man handles five acres of cantaloupes; but fifteen acres intensively farmed will require some help. It might be better to try fewer crops and more acreage to each at first; but the small farm must be diversified and worked intensively. The farmer must work hard and live economically until he has paid out. In this climate he can work 365 days annually. Keep chickens. H. B. Lehman, of Glendale, deals in them almost exclusively. Returns last year were $2,254, less $890 expenses, net, $1,364. Five acres would make a splendid chicken ranch. A few hundred dollars would stock it.

Some have started by renting land for the cantaloupe season at $10 to $15 per acre. That only requires cost of living while making the crop, but the renter is not building his own home place, though experience may be worth the delay.

It is an ideal country for the apiary, poultry, vegetables, and for small fruits on a $2,000 basis. With more money there is a much wider field.

STATE AND THE 75 COUNTIES OF ARKANSAS

With Their Boundaries



LOCATION AND POPULATION OF ARKANSAS COUNTIES.

Loca.	County	Pop.
1	Benton	33,389
2	Carroll	16,829
3	Boone	14,318
4	Marion	10,203
5	Baxter	10,389
6	Fulton	12,193
7	Randolph	18,987
8	Clay	23,690
9	Washington	33,389
10	Madison	16,056
11	Newton	10,612
12	Searcy	14,485
13	Stone	8,946
14	Isard	14,561
15	Sharp	11,688
16	Lawrence	20,001
17	Greene	3,852
18	Crawford	23,942
19	Franklin	20,638
20	Johnson	19,698
21	Pope	24,527
22	Van Buren	13,509
23	Cleburne	11,903
24	Independence	24,776
25	Jackson	28,501
26	Craighead	27,627
27	Poinsett	12,791
28	Mississippi	30,468
29	Sebastian	52,278
30	Logan	26,350
31	Scott	14,802
32	Yell	26,323
33	Perry	9,402
34	Conway	22,729
35	Faulkner	23,708
36	White	28,574
37	Woodruff	20,049
38	Cross	14,012
39	St. Francis	22,548
40	Crittenden	22,447
41	Polk	17,216
42	Montgomery	12,455
43	Garland	27,271
44	Saline	16,657
45	Pulaski	86,751
46	Lonoke	27,983
47	Prairie	13,853
48	Monroe	19,907
49	Lee	24,252
50	Hot Springs	5,022
51	Grant	9,425
52	Jefferson	52,734
53	Arkansas	16,103
54	Phillips	33,535
55	Sevier	16,616
56	Howard	6,898
57	Pike	15,565
58	Clark	23,686
59	Dallas	12,621
60	Cleveland	14,481
61	Lincoln	15,118
62	Desha	15,274
63	Little River	13,597
64	Hempstead	8,285
65	Nevada	19,344
66	Ouachita	21,774
67	Calhoun	9,894
68	Bradley	14,518
69	Drew	21,960
70	Miller	19,555
71	Lafayette	13,471
72	Columbia	23,820
73	Union	30,723
74	Ashley	25,268
75	Chicot	21,987
	Total	1,574,449

Arkansas Cities and Villages With 1910 Populations

Towns	Loca.	Pop.
A		
Abbott	31	300
Alco	13	200
Alix	19	500
Alma	18	565
Almond	23	308
Almyra	53	252
Alpena Pass	3	314
Alston	52	350
Altus	19	659
Aly	32	215
Amity	58	813
Antoine	57	324
Apex	29	200
Appleton	21	319
Arden	63	424

Arkansas Cities and Villages With 1910 Populations

Towns	*Loca.*	*Pop.*
Argenta	45	11,138
*Arkadelphia	58	2,745
Arkana	5	217
*Arkansas City	62	1,485
Armada	18	316
Armorel	28	397
*Askdown	63	1,247
Ashton	75	261
Atkins	21	1,258
*Augusta	37	1,520
B		
Balboa	15	200
Bald Knob	36	617
Banks	68	208
Bardstown	28	210
Barren Fork	14	350
Barton	54	218
Bates	31	272
*Batesville	24	3,399
Bauxite	44	309
Baxter	69	224
Bay	26	500
Bearden	66	439
Beaver	2	250
Beebe	36	873
Beirne	58	450
Bellefonte	3	296
Belleville	32	335
Ben Lomond	55	431
*Benton	44	1,708
*Bentonville	1	1,956
*Berryville	2	785
Bertig	17	304
Bierne	58	450
Big Creek	40	218
Bigelow	33	350
Biggers	7	435
Biglake	28	254
Biscoe	47	253
Black Rock	16	1,078
Black Springs	42	254
Blevins	64	212
Blissville	69	296
Blue Mountain	30	204
Blytheville	28	3,819
Bodcaw	65	216
Bonanza	29	811
Bono	26	222
*Booneville	30	1,631
Boydsville	8	214
Boynton	28	350
Bradford	36	382
Branch	19	271
Brasfield	47	200
Brighton	17	350
Brinkley	48	1,740
Brookland	26	516
Brownstown	55	221
Buckner	71	249
Buffalo	4	224
Burdette	28	707
Butler	28	250
C		
Cabin Creek	20	520
Cabool	60	250
Cabot	46	441
Cache	47	219
Caddo Gap	42	212
Calico Rock	14	401
*Camden	66	3,995
Canehill	9	421
Carlisle	46	516
Carrollton	2	310
Carthage	59	386
Casa	33	310
Cauthron	31	318
Cave City	15	278
Center Point	56	328
Centerville	32	250
Cerrogordo	63	253
*Charleston	19	576
Cherokee City	1	350
Cherry Valley	38	300
Chickalah	32	244
Chickasawba	28	250
Chidester	66	344
Chula	32	309
*Clarendon	48	2,037
Clarkdale	40	250
*Clarksville	20	1,456
*Clinton	22	297
Clio	60	450
Coaldale	31	350
Coal Hill	20	1,229
Columbus	64	216
Combs	10	200
*Conway	35	2,794
Cornerstone	52	250
*Corning	8	1,439
Cotter	5	894
Cotton Plant	37	1,081
Cove	41	400
Cricket	3	524
Crossett	74	2,038
Cummins	61	500
Cushman	24	244
D		
Dabney	22	241
Dalark	59	231
Damascus	35	309
Danville	32	803
*Dardanelle	32	1,757
Datto	8	244
Decatur	1	246
Deer	11	250
Delight	57	750
Denning	19	757
Denning Yard	19	584
*De Queen	55	2,018
Dermott	75	1,662
*Des Arc	47	1,061
Devall Bluff	47	924
*De Witt	53	831
Dierks	56	272
Dodd City	4	250
Douglas	61	298
Dover	21	385
Drakes Creek	10	208
Draughton	60	304
Dumas	62	519
Dyer	18	433
E		
Eagle Mills	66	1,200
Earl	40	1,542
Edgemont	23	342
*El Dorado	73	4,202
Elizabeth	6	211
Elmore	50	200
El Paso	36	217
Emerson	72	600
Emmet	65	270
England	46	1,407
Eudora	75	606
*Eureka Springs	2	3,228
*Evening Shade	15	289
F		
*Fayetteville	9	4,471
Felsenthal	73	273
Fordyce	59	2,794
Foreman	63	1,041
*Forest City	39	2,484
*Fort Smith	29	23,975
Fouke	70	314
Fulton	64	647
G		
Galla	21	205
Garland	70	277
Garretson	52	200
Gentry	1	668
Gethsemane	52	500
Gifford	50	200
Gillett	53	256
Gilham	55	291
Gilmore	40	250
Glenwood	57	850
Grand Lake	75	252
Grannis	41	350
Grapevine	51	284
Gravette	1	569
Graysonia	58	771
Greenbrier	35	250
Greenfield	27	316
Green Forest	2	635
Greenway	8	390
*Greenwood	29	1,129
Griffithville	36	202
Guion	14	296
Gurdon	58	1,284
Guy	35	350
H		
Hackett	29	363
Halley	62	257
*Hamburg	74	1,787
*Hampton	67	353
Hardy	15	329
Harrell	67	300
*Harrisburg	27	942
*Harrison	3	1,602
Hartford	29	1,780
Hartman	20	540
Hatfield	41	300
Havana	32	621
Haynes	49	350
Hazen	47	687
*Heber Springs	23	1,518
*Helena	54	8,772
Hensley	44	500
Hermitage	68	247
Hickory Plains	47	250
Higden	23	336
Hindsville	10	284
Holland	35	200
Holly	57	850
Holly Grove	48	536
Homan	70	250
Hope	64	3,639
Horatio	55	605
*Hot Springs	43	14,434
Houston	33	250
Hoxie	16	915
Humphrey	53	380
Hunter	37	508
Huntington	29	1,700
*Huntsville	10	540
Huttig	73	1,240
I		
Imboden	16	690
Iuka	14	217
J		
Jacksonport	25	373
Jacksonville	45	250
*Jasper	11	242
Jeanette	40	262
Jenny Lind	29	500
Jericho	40	200
Joiner	28	281
*Jonesboro	26	7,123
Judsonia	36	746
Junction City	73	1,065
K		
Kearney	52	350
Kensett	36	263
Keo	46	250
Kerrs	46	381
Kingsland	60	445
Knob	8	250
Knobel	8	362
Knowlton	62	250
Knoxville	20	316
L		
Ladd	52	200
La Grange	49	310
*Lake City	26	443
Lake Dick	52	500
Lakefarm	52	281
*Lake Village	75	1,074
Lamar	20	520
Laurel	21	251
Lavaca	29	350
Lead Hill	3	711
Leland	75	207
Leola	51	398
Leslie	12	1,898
*Lewisville	71	1,261
Lincoln	9	292
Little Rock (capitol)	45	45,941
Locksburg	55	748
London	21	303
*Lonoke	46	1,547
Luxora	28	677
M		
McCrory	37	637
McGehee	62	1,157
McGrew	52	250
McNab	64	271
McNeil	72	482
Madison	39	472
Magazine	30	968
Magness	24	216
*Magnolia	72	2,045
*Malvern	50	2,778
Mammoth Spr'g	6	817
Mandeville	70	200
Manilla	28	562
Mansfield	29	816
*Marianna	49	4,810
Marion	40	256
Marked Tree	27	2,026
Marmaduke	17	780
*Marshall	12	558
Marvell	54	556
Maynard	7	295
Maysville	1	344
*Melbourne	14	282
*Mena	41	3,953
Midland	29	639
Millard	30	208
Millville	66	1,014
Mineral Springs	56	432
Minturn	16	251
Monette	26	555
*Monticello	69	2,274
Montrose	74	250
Morrell	74	508
*Morrillton	34	2,424
*Mountain Home	5	446
*Mount View	13	272
Mount Vernon	35	250
Mulberry	18	722
Murfreesboro	57	516
N		
*Nashville	56	2,374
Neal Springs	55	216
Nettleton	26	1,080
Newark	24	595
New Edinburg	60	435
*Newport	25	3,557
Norfork	5	221
O		
Ogamaw	66	214
Ogden	63	397
Okolona	58	399
Ola	32	516
Omaha	3	508
*Osceola	28	1,769
*Ozark	19	1,146
P		
*Paragould	17	5,248
*Paris	30	1,497
Parkdale	74	383
Peach Orchard	8	344
Pearcy	43	216
Pea Ridge	1	208
Pecan Point	28	219
Pennington	25	250
Perla	50	250
Perry	33	314
*Perryville	33	355
Pettigrew	10	450
*Piggott	8	1,150
Pike	57	335
Pindall	12	277
*Pine Bluff	52	15,102
Plainview	32	853
Plumerville	34	495
*Pocahontas	7	1,547
Portia	16	367
Portland	74	823
Pottsville	21	205
Poughkeepsie	15	284
Prairie Grove	9	774
Prairie View	30	200
*Prescott	65	2,705
Provo	55	248
Q		
Quitman	23	471
R		
Ravana	70	264
Ravenden	16	350
Readland	75	214
Rector	8	1,859
Redfield	52	278
Remmel	25	381
Reyno	7	290
Richmond	63	309
*Rison	60	725
Rogers	1	2,820
Rosboro	57	516
Rosston	65	200
Rover	32	218
*Russellville	21	2,936

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Arkansas Cities and Villages With 1910 Populations

Towns	*Loca.*	*Pop.*
S		
Saginaw	50	254
Saint Francis	8	459
Saint James	13	314
Saint Paul	10	430
Saint Vincent	34	500
*Salem	6	865
Sandy Ridge	28	700
Saratoga	56	400
*Searcy	36	2,331
Settlement	22	250
Seyppel	40	250
*Sheridan	51	481
Sherrill	52	350
Shiloh	23	351
Silica	44	284
Siloam Springs	1	2,405
Smithville	16	308
Spadra	20	640
Springdale	9	1,755
Springfield	34	316
Stamps	71	2,316
Staple	61	274
Star City	61	396
Stevens	66	572
Sterling	75	618
Strong	73	465
Stuttgart	53	2,740
Success	8	379
Sugar Grove	30	284
Sulphur Rock	24	252
Sulphur Springs	1	543
Sunnyside	75	500
Swan Lake	52	250
Swifton	25	290
T		
*Texarkana	70	5,655
Thorney	10	292
Thornton	67	611
Traskwood	44	228
Trumann	27	300
Tucker	52	264
Tuckerman	25	583
Tupelo	25	205
Turrell	40	200
Tyronza	27	250
U		
Union	6	284
Uniontown	18	246
V		
Valley Springs	3	208
*Van Buren	18	3,878
Vandervoort	41	599
Vanndale	38	571
*Varner	61	920
Vick	68	250
Victor	50	218
Vincent	40	229
Vineyard	49	250
Viola	6	275
W		
Wabbaseka	52	251
Waldo	72	597
*Waldron	31	984
Walkers	18	372
Walnut Hill	71	300
*Walnut Ridge	16	1,798
Walnut Tree	32	214
Wareagle	1	262
*Warren	68	2,057
Warsaw	45	284
*Washington	64	399
Webb City	19	291
Weiner	27	232
Weldon	25	250
Wesson	73	694
West Fork	9	264
West Harftord	29	280
Wheetley	39	330
Whelen Springs	58	292
Whipple	22	284
Wickes	41	286
Wideman	14	270
Wideners	39	245
Wilmar	69	929
Wilmot	74	622
Wilson	28	521
Wilton	63	294
Winchester	69	300
Winslow	9	289
Winthrop	63	600
Womble	42	552
Woodson	44	342
Wrightsville	45	318
Wyanoka	40	590
*Wynne	38	2,353
Y		
*Yellville	4	463

General Description of Arkansas

Future of the State

A Portion of the United States Just Awakening to Its Natural Advantages.

This State belongs to the great basin of the Mississippi Valley. Parts of the Eastern portion, bordering on the Mississippi, are low, swampy and are annually overflowed, but westward the country gradually attains a higher elevation, passing off into the hills which lead up to the Ozark Mountains.

While subject to sudden changes, the climate, as a whole, is exceedingly delightful. Examination of any map showing water courses will reveal **hundreds of streams** in the State, the majority of which can supply **power for manufacturing.**

The Arkansas, Red, White, and Black Rivers, each hundreds of miles in length, all aid in giving the State more interior water navigation than any State in the Union, besides over 4,000 miles of railroads. And yet, with these natural advantages, the State has been slow in development largely because this is a **heavily timbered** State and also because the old settlers, having little ambition, have been willing to let things jog along in the same old rut.

Their desires have been few and they have had all they wanted. With soil and climate good to them, it has been easy to get enough and they have rested content. They have **heard no call to new life** and have not waked up to new conditions.

Three-fifths of the State still has its forest covering, and nearly all this is commercial timber, for which there is an increasing demand at a good price, there being some **sixty varieties** of trees within the boundaries of the State.

Back from the Mississippi for a distance of 25 and 60 miles is a **belt of hardwood.** In the southern part of the State spreads a broad **area of pine.**

GREAT WEALTH IN TIMBER.

With lumber increasing in value every year it is impossible to estimate the great wealth of Arkansas in timber. In **one** of the late years more than **$25,000,000** worth of lumber was shipped out of the State, much of it going to furniture and wagon works in the central states.

It is estimated that of standing **pine** in the State, there are 50,000,000,000 feet, and of **hardwoods** sufficient to supply all the furniture, wagon, automobile and piano factories in the United States for the **next twenty** years.

With limited transportation service in the State, until recently, it was natural that the timber should remain untouched, and here it is now in readiness for export at a good price. But, better yet, to be cut and used in local factories, giving employment to tens of thousands of workmen who may become residents of the State.

Today Arkansas is an **ideal State** for enterprising lumbermen and for all kinds of factories, the products of which are made from hardwoods.

NATURAL COTTON FIELD.

But not alone in timber is the State blessed. One-half of the tillable land in the State is especially adapted to the **growing of cotton,** and one-tenth of America's cotton is already produced in this State.

The adaptability of this soil to cotton growing is shown in the fact that the average yield per acre of seed cotton, upon the **uplands** here, is 500 and 800 pounds, and from 1,000 to 2,000 pounds on the **bottom lands.**

Of the more than 1,000,000 bales produced in this State yearly, only a small fraction, up to the present time, is manufactured into goods in this State. This cotton, **at large expense,** is shipped to New England, to Europe, and to all cotton markets of the world, and this too, while the **rapid running streams** of Arkansas are full of power which would convert this cotton into the manufactured product at great profit.

Enterprising cotton manufacturers are invited to investigate the advantages offered by this State in the production of cotton goods.

But Cotton and Wool-growing and the Dairy are not the only raw materials waiting for factories. This is a glorious country for sheep.

A large share of the State seems especially **made for sheep** growers. No hot summers to exhaust the vitality of the flock, and no cold winters to destroy the animals. No blizzards at lambing time to prevent the increase, and **no drouths** to cut off feed in the summer time.

Being the natural field for the wool-grower, this should be a center for the **woolen industry,** and what is said here of sheep may be said of the Angora goat. With a sunshine climate, with a highly fertile soil, with exemption from drouth, through **53 inches** of rainfall every year, causing an abundance of pasturage, goats, sheep, and all kinds of stock become a source of large profit to stockmen.

No better region can be found than this for the dairy business. With an abundance of pure running water, luxuriant grasses, a mild climate, here are all the essentials for the successful dairyman.

FOUNDATION FOR GREAT WEALTH

Overlooking Best Opportunities. That the foundation for great wealth is here is shown in the fact that of 28,000,000 acres of arable area in the State, **only about** 5,000,000 acres are under cultivation.

The truth is that land-seekers, overlooking the rich opportunities that lie in this State, have floated by to other regions where land speculators were **holding out** brilliant inducements to new settlers. During all this rush for the West, these fertile Arkansas lands have remained **right here** biding their time, the forests improving in the meantime, the acres in the mineral lands advancing in value, and the State as a whole, getting ready to join the grand march in the great industrial advance now beginning to sweep over the Southwest.

The land-seeker, becoming interested, will naturally ask the price of land, a question not easily answered to the satisfaction of the enquirer.

Price usually depends upon the production and rental value of a property. Thus, land at $150 an acre, in some localities may be cheaper than land at $1.50 an acre at other points.

What can be produced on the land? Where can the produce be sold? What price, and what profit can be realized? What are the prospects for future growth in values? All these are determining factors.

We can only give a general outline of the advantages of a region and suggest that the land-seeker investigate for himself.

In the search for good opportunities to engage in agriculture, fruit growing, stock raising, mining or manufacturing, the land-seeker will find the advantages offered by **this region** are superior, and that Arkansas lands are cheap, very cheap, because there is more land here than people.

VALUE OF LANDS.

By reference to our map and table of counties, the position of every region and county in the State, herewith described, can be readily understood.

Thus, in Crawford County, the soil of which is adapted to the growth of the peach and the grape, seventy-five per cent of the acreage is yet covered with timber; while the southern part of this county is underlaid with coal. Prices: Wild land, $3 to $6 per acre; improved farms, $30 to $150 per acre.

It should be understood the wild lands are usually covered with forest, the timber on which will pay, and frequently much more than pay, for clearing the land.

Washington County, an upland region, elevated 1,500 feet, is the land of the **big red apple.** An Italian Colony came in here a few years ago, absolutely almost penniless, and in six years they owned 2,300 acres of land, were out of debt and have their land under a high state of cultivation. Wild land is yet low in price in this County.

Benton County, the center of the Ozark apple region, reaps an annual income of $1,000,000 from 3,000,000 of apple trees in the county.

The county is in a very high state of cultivation, fruit raising and general farming being the rule. Improved land here is worth from $40 to $200 per acre. Unimproved land is worth from $6 to $12 per acre.

Madison County, Ozark Mountain region. Resources: Fruit, iron, lead, zinc, asphaltum and fine quarries of marble. Fine orchard lands **low in price** here.

Carroll County. Resources: Fruit, lumber, famous medicinal springs, summer and winter resort, Eureka Springs, becoming an excellent market for fruit and vegetable production.

Great demand here for canneries, sawmills and woodworking institutions. Parties **seeking new locations** for business are invited to come to Eureka Springs.

Fulton County. Resources: Fruit, cotton. County nearly all covered with heavy forests. Land, $4 per acre. Timber will pay for clearing. Mammoth Springs in this County, gives rise to a full-fledged river, an active, beautiful great stream, adjoining which is a flour mill and a cotton mill, the United States fish hatchery and a pleasure resort, with large and commodious hotels, etc.

Sharp County. A very picturesque region. Resources: **Fruit, timber and iron.** Soil rich and very cheap. Stately growths of timber, numerous running streams.

WILD LAND $3 AND $6 AN ACRE.

Craighead County. Much dense forest here yet, but rapidly being cleared away. Jonesboro becoming a large manufacturing center. County well supplied with railroads. Wild land $3 and $6 an acre.

Little River County. Resources: Great abundance of timber, level land, **hardwood** on river bottoms, **pine** on uplands, well supplied with railroads, soil and climate adapted to fruit and truck raising. Lands from $3 to $8 wild; from $8 to $20 per acre improved.

Hempstead County. One of the oldest in the State, a peach and tomato country. Yet unimproved farms here can be had for **$4 per acre.** Timber is being removed and the county rapidly settling.

Lafayette County, in the great pine belt, highly fertile soil underlaid with clay subsoil. County well watered and drainage perfect. Wild land worth from $2.50 to $4 per acre. Climate delightful.

Columbia County. This is the poor man's county. With $500 the man can be well established on a 40-acre farm and making money. A cotton, fruit and grape country. The quick, **fertile soil** here gives a family a living the first year.

Hot Springs is not only the most widely known city in Arkansas, but it has an international reputation. Its visitors come from all countries and all conditions of life. The United States government has proven its faith in the curative powers of its waters by its ownership and control of the springs. The hotels are equal to those of Chicago and New York.

The water from the springs, with **a daily flow** of over 800,000 gallons, is not only used for baths, but it is delicious to drink. A large number of complaints have yielded to its power.

Hot Springs has a hotel capacity of 20,000, and there is never a season that it is not filled. With its twenty-three bath houses and its ninety-five doctors, it is pre-eminently a Sanitorium. Nevertheless, out of its fifty thousand annual visitors, a large proportion consists of people who have come solely on account of the climate, and the opportunities to have a good time. The death rate is low—6.11 per thousand for residents and for visitors 1.32. Total 7.43. Minus the decimals, New York stands at 25, Boston 21, Philadelphia 17, Chicago 19, Los Angeles 10.

Hot Springs has **two banks,** two daily papers, nineteen churches, fifteen schools, twelve livery stables, water works, electric and gas light, electric street railway, fire department, local and long distance telephone system, New York, Chicago and New Orleans market reports by direct wire, police system, an athletic arena and baseball park, and one of the finest mile racing tracks in America.

If a business trip to Arkansas, for a personal investigation of opportunities herein set forth, is being planned, Hot Springs should by all means be included in the itinerary.

With the vast concourse of capitalists who make this their yearly playground, from which prospecting expeditions are made, there is perhaps **no point in Arkansas** which affords a better opening for a real estate business, covering a list of properties embracing every section of the state.

Area of State. Length, north and south, 240 miles; average breadth, 228 miles. Length of State on Mississippi River, from 300 to 360 miles.

Climate. Temperate and healthful. Average temperature throughout the year, 62.2 degrees. January average 40 above, July average 81 above. Warmest on record 106; Coldest 12 below. Extremes of temperature are rare. It is a land of delightful sunshine for nine months in the year, and the other three months are not unpleasant. Rainfall 53.6 inches a year.

HISTORY.

Arkansas. Visited by the Spaniards, under De Soto, 1541. Settled by the French, in 1685. Was a part of the French Colony of Louisiana, which was purchased by the U. S. in 1803.

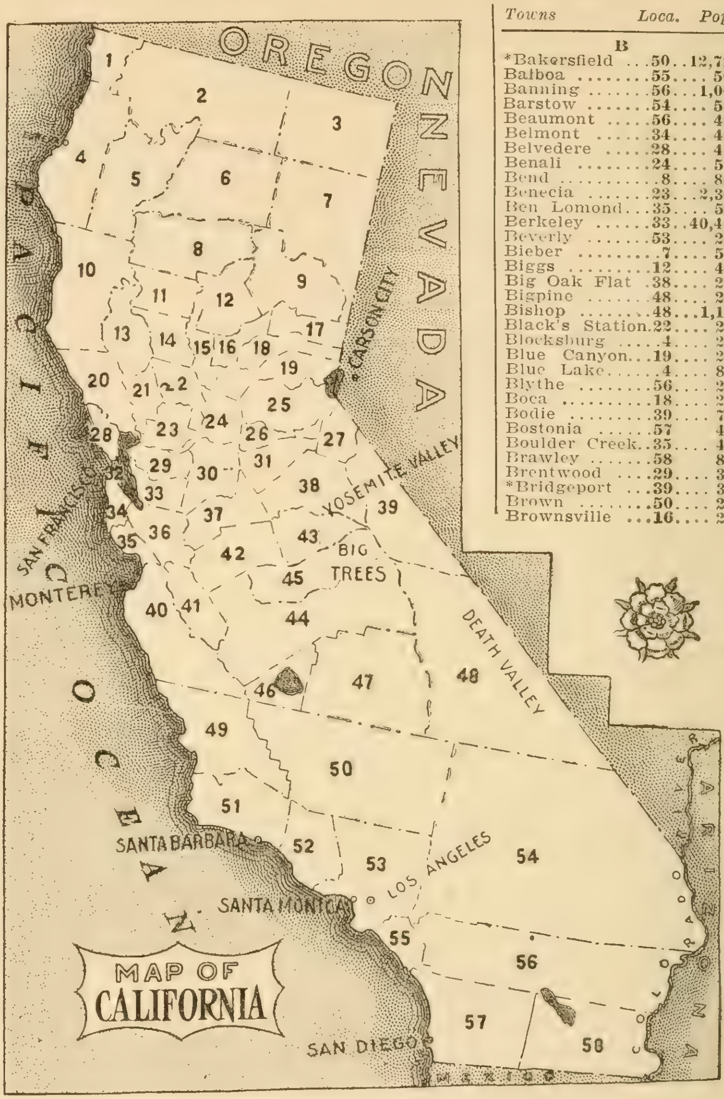
Continued a part of Louisiana territory until 1812. Including Indian Territory, was organized as a Territory in 1819. Admitted as a State, June 15, 1836.

STATE AND THE 58 COUNTIES OF CALIFORNIA

With Their Boundaries

Location and Population of CALIFORNIA COUNTIES

Location	COUNTIES	Pop. 1910
1	Del Norte	2,417
2	Siskiyou	18,801
3	Modoc	6,191
4	Humboldt	33,857
5	Trinity	3,301
6	Shasta	18,920
7	Lassen	4,802
8	Tehama	11,401
9	Plumas	5,259
10	Mendocino	23,929
11	Glenn	7,172
12	Butte	27,301
13	Lake	5,528
14	Colusa	7,732
15	Sutter	6,328
16	Yuba	10,042
17	Sierra	4,098
18	Nevada	14,955
19	Placer	18,237
20	Sonoma	48,394
21	Napa	19,800
22	Yolo	13,926
23	Solano	27,559
24	Sacramento	67,806
25	Eldorado	7,402
26	Amador	9,086
27	Alpine	309
28	Marin	25,114
29	Contra Costa	31,674
30	San Joaquin	50,731
31	Calaveras	9,171
32	San Francisco	416,912
33	Alameda	246,131
34	San Mateo	26,585
35	Santa Cruz	26,140
36	Santa Clara	27,738
37	Stanislaus	22,522
38	Tuolumne	9,979
39	Mono	2,042
40	Monterey	24,146
41	San Benito	8,041
42	Merced	15,148
43	Mariposa	3,956
44	Fresno	75,657
45	Madera	8,368
46	Kings	16,233
47	Tulare	35,440
48	Inyo	6,971
49	San Luis Obispo	19,383
50	Kern	37,715
51	Santa Barbara	27,738
52	Ventura	18,347
53	Los Angeles	504,131
54	San Bernardino	56,706
55	Orange	34,436
56	Riverside	34,696
57	San Diego	61,665
58	Imperial	13,591
	Total	2,377,549



CALIFORNIA TOWNS WITH 1910 POPULATIONS.

Towns	Loca.	Pop.
A		
Acampo	30	200
Adin	3	500
Alameda	33	23,883
Albion	10	500
Alhambra	53	5,021
Allegheny	17	200
Alma	36	300
Alpaugh	47	250
Altaville	31	300
Alton	4	200
*Alturas	3	916
Alvarado	23	612
Alviso	26	402
Amidor City	26	854
Anaheim	55	2,628
Anderson	6	837
Angel Island	28	285
Angels Camp	31	3,000
Antioch	29	1,124
Aptos	35	278
Arbuckle	14	742
Arcadia	53	696
Arcata	4	1,121
Aromas	41	300
Arrowhead	54	200
Arroyo Grande	49	300
Artesia	53	500
*Auburn	19	2,376
Avalon	53	1,000
Azusa	53	1,477
B		
*Bakersfield	50	12,727
Balboa	55	500
Banning	56	1,000
Barstow	54	500
Beaumont	56	407
Belmont	34	450
Belvedere	28	431
Benali	24	532
Bend	8	862
Benecia	23	2,360
Ben Lomond	35	500
Berkeley	33	40,434
Beverly	53	250
Bieber	7	513
Biggs	12	403
Big Oak Flat	38	263
Bigpine	48	250
Bishop	48	1,190
Black's Station	22	292
Blocksburg	4	266
Blue Canyon	19	200
Blue Lake	4	800
Blythe	56	200
Boca	18	214
Bodie	39	750
Bostonia	57	400
Boulder Creek	35	441
Brawley	58	881
Brentwood	29	325
*Bridgeport	39	300
Brown	50	200
Brownsville	16	274
Buena Park	55	200
Bulwinkle	4	200
Burbank	53	400
Burlingame	34	1,565
Burnett	53	500
Butte City	11	279
Byron	29	350
C		
Calexico	58	797
Calistoga	21	751
Cambria	49	288
Campbell	36	700
Campo	31	200
Camptonville	16	387
Capay	22	304

California Cities and Villages, with 1910 Populations

Towns	*Loca.*	*Pop.*
Carmel	40	500
Carpenteria	51	300
Casper	10	285
Castroville	40	800
Cayucas	49	316
Cedarville	3	500
Centerville	33	561
Ceres	37	200
Charter Oak	53	200
Cherokee	12	216
Chico	12	3,750
Chino	51	1,444
Claremont	53	1,114
Clayton	29	268
Clearwater	53	250
Clements	30	317
Cloverdale	20	223
Clovis	44	1,200
Coachelia	56	1,500
Coalinga	44	4,199
Colegrove	55	200
Colfax	19	615
College City	14	208
Collinsville	23	300
Colma	34	393
Colton	54	3,980
*Colusa	14	1,582
Compton	53	922
Concord	29	703
Copperopolis	31	412
Coram	6	666
Cordelia	28	281
Corning	8	972
Corona	56	3,540
Coronado	57	1,477
Corte Madera	28	360
Cottonwood	6	450
Coulterville	43	350
County Farm	53	225
Covelo	10	300
Covina	53	1,652
Coyote	36	225
Cozzens	50	200
*Crescent City	1	1,114
Crescent Mills	9	300
Creston	49	200
Crockett	29	1,800
D		
Daggett	54	450
Danville	29	200
Daunt	47	207
Davenport	35	503
Davis	22	832
Decoto	33	220
Delano	50	437
Del Mar	57	250
Diamond (Black)	29	2,372
Diamondg Sp'g	25	267
Dinuba	47	970
Dixon	23	827
Dorris	2	214
Dos Palos	47	350
Downey	53	1,500
*Downieville	17	500
Drytown	26	216
Duarte	53	600
Duncans Mills	20	300
Dunsmuir	12	1,719
Durham	12	250
Dutch Flat	19	400
E		
Eagleville	3	400
Edgewood	2	200
El Cajon	57	500
*El Centro	58	1,610
Eldorado	25	311
Eldridge	20	800
Elk Creek	11	213
Elk Grove	24	467
Elmira	23	317
El Modeno	55	200
Elrio	52	250
Elsinore	56	488
Emerald Bay	25	426
Emerys	33	2,613
Encinitas	57	200
Escondido	57	1,334
Etna Mills	2	518
*Eureka	4	11,815
Exeter	47	500
F		
*Fairfield	23	834
Fairoaks	24	500
Fall Brook	57	300
Fall River Mills	6	350
Farmington	30	236
Fellow	50	500
Felton	35	439
Fernando (San)	53	1,100
Ferndale	4	905
Firebough	44	400
Florence	53	751
Florin	54	385
Folsom	24	1,500
Forbestown	12	222
Forest	17	342
Foresthill	19	658
Fort Bidwell	3	362
Fort Bragg	10	2,408
Fort Jones	2	1,316
Fortuna	4	883
Fosteria	31	400
Fowler	44	675
Fredalba	54	213
French Camp	30	233
French Corrall	18	250
*Fresno	44	24,892
Fullerton	55	1,725
Fulton	20	400
G		
Galt	24	985
Garberville	4	284
Garden Grove	55	401
Georgetown	25	724
Germantown	11	235
Geyserville	20	411
Gibsonville	17	203
Gilroy	36	2,427
Glendale	53	2,746
Glendora	53	1,500
Glen Ellen	20	1,020
Goleta	51	511
Gonzales	40	612
Graniteville	18	246
Grass Valley	18	4,520
Greenville	9	417
Greenwood	15	307
Gridley	12	987
Grizzly Flats	15	250
Guadaloupe	51	524
Gualala	10	215
Guerneville	20	633
H		
Half Moon	34	1,501
Hamilton City	11	1,016
*Hanford	46	4,829
Harrison	34	252
Hawthorne	53	210
Haywards	33	2,746
Healdsburg	20	2,011
Hemet	56	992
Hermon	53	450
Hermosa	53	679
Highgrove	56	204
Highland	54	1,600
Holden	30	341
*Hollister	41	2,308
Holtville	58	729
Honcut	12	418
Hopland	10	802
Hueneme	52	812
Huntington Pk	53	1,299
Hydesville	4	317
I		
Igerna	2	204
Imperial	58	1,257
Imperial Beach	57	204
*Independence	48	407
Indianola	56	250
Inglewood	53	1,536
Ione	26	876
Iowa Hill	19	456
Irvington	33	1,010
J		
*Jackson	26	2,035
Jamestown	38	611
Johannesburg	50	307
Johnsville	19	311
Julian	57	309
K		
Kelseyville	13	902
Kennett	6	2,511
Kern	50	2,000
Kernville	50	210
Kimberly	6	625
King City	40	537
Kingsburg	44	634
Klau	49	201
Knights Ferry	37	573
Knights Lndg	22	367
L		
La Canada	53	250
La Crescenta	53	210
La Grange	37	285
La Habra	55	225
La Jolla	57	511
*Lakeport	13	870
La Mesa	57	507
La Miranda	53	213
Larkspur	28	591
Lathrop	30	261
Laton	44	410
Latrobe	25	313
Laverne	28	308
Lawrence	36	205
Leeland	48	250
Le Grand	42	250
Lemoore	46	1,017
Lincoln	19	1,404
Lindsay	47	1,814
Little Lake	48	210
Little Shasta	2	514
Livermore	33	2,030
Lockeford	29	2,697
Lompoc	51	1,482
Lonepine	48	251
Longbeach	53	17,809
Long Valley	7	205
Loomis	19	307
Lordsburg	53	954
Lorengo	33	350
Los Alamitos	55	310
Los Alamas	51	607
*Los Angeles	53	319,198
Los Banos	42	745
Los Gatos	36	2,232
Los Olivos	51	203
Lower Lake	13	395
Loyalton	17	983
M		
McKittrick	50	212
*Madera	45	2,404
Mammoth	6	650
Magalia	12	243
*Mariposa	43	431
*Markleeville	27	150
*Martines	29	2,115
*Marysville	16	5,430
Maxwell	14	350
Mayfield	36	1,041
Melitta	20	220
Mendocino	10	1,289
Menlo Park	34	813
*Merced	42	3,102
Michigan Bar	24	714
Michigan Bluff	19	479
Middletown Lake	13	710
Midland	50	510
Mikon	22	
Millbrae	24	343
Mill Valley	28	2,551
Milpitas	36	405
Milton	31	401
Mission	32	759
*Modesta	37	4,034
Mojave	50	281
Mokelumne Hill	31	1,061
Monrovia	53	3,576
Montague	2	274
Monte	53	350
Montecito	51	821
Monterey	40	4,923
Monticello	21	233
Morgan Hill	36	607
Murphy	31	748
N		
*Napa	21	5,791
National City	57	1,733
Needles	54	1,501
*Nevada City	18	2,689
New Almaden	36	250
Newark	33	520
Newcastle	19	503
Newhall	53	510
Newman	37	862
Newport Beach	55	445
Niles	33	1,387
Nipomo	49	215
Nordhoff	52	218
Norman	11	244
No. Bloomfield	18	510
No. San Diego	57	250
No. San Juan	18	312
Norwalk	53	513
Novato	28	405
O		
Oakdale	37	1,035
*Oakland	33	150,174
Oakley	29	251
Occidental	20	213
Oceano	49	250
Ocean Park	53	3,119
Oceanside	57	673
Olema	28	305
Ontario	54	4,374
Orange	55	2,920
Orland	11	836
Ormus	44	261
Orogrande	54	210
*Oroville	12	3,859
Oxnard	52	2,585
P		
Pacheco	29	251
Pacific Grove	40	2,384
Paige	47	412
Palo Alto	36	4,486
Parkfield	40	207
Parlier	44	505
Pasadena	53	30,291
Paso Robles	49	1,441
Penryn	19	253
Perkins	24	254
Pascadero	34	984
Petaluma	20	5,880
Pichaco	58	256
Piedmont	33	1,719
Pike	17	210
Pinchot	53	250
Pinole	29	798
Piru	52	210
Pitt	6	305
*Placerville	25	1,918
Pleasanton	33	1,254
Pleasant Valley	25	231
Plymouth	26	508
Point Arena	10	497
Point Reyes	28	214
Pomona	53	10,207
Pope Valley	21	266
Port Costa	29	1,221
Portersville	47	2,696
Port Kenyon	4	207
Potter Valley	10	276
Prattville	19	239
Princeton	14	309
Puente	53	250
Q		
Quartz	38	210
*Quincy	19	319
R		
Ramona	57	210
Randsburg	50	1,021
Raymond	45	510
*Red Bluff	8	3,530
*Redding	6	3,572
Redlands	54	10,449
Redondo Beach	53	2,935
*Redwood City	34	2,442
Reedley	44	1,800
Requa	1	408
Richmond	29	6,802
Rio Dell	4	313
Rio Vista	23	881
Riverdale	44	281
Riverside	56	15,212
Rocklin	19	1,026
Rohnerville	4	610
Roseville	19	2,608
Ross	28	556
Round Valley	48	213
Rust	29	517
Rutherford	21	211
S		
*Sacramento	24	44,696
Saint Helena	21	1,603
*Salinas	40	3,736
*San Andreas	31	1,683
*San Bernardino	54	12,779
San Buena Ventura	52	2,915
*San Diego	57	39,518
San Fernando	53	1,100
*San Francisco	32	416,912
Sanger	44	2,010
San Jacinto	56	898
*San Jose	36	28,946
San Juan	41	326
San Juan Capistrana	55	510

California Cities and Villages, with 1910 Populations

Towns	Loca.	Pop.
San Leandro	33	3,471
San Lorenzo	33	350
San Lucas	40	349
*San Luis Obispo	49	5,157
San Luis Rey	57	315
San Martin	36	408
San Mateo	34	4,334
San Miguel	49	611
San Pablo	29	487
San Pedro	53	3.500
*San Rafael	28	5,934
*Santa Ana	55	8,429
Santa Clara	35	4,348
*Santa Barbara	51	11,659
*Santa Cruz	35	11,146
Santa Maria	51	2,260
Santa Monica	53	7,847
Santa Paula	52	2,216
*Santa Rosa	20	7,817
Santa Ynez	51	250
Saratoga	36	1,500
Saticay	52	400
Sausalito	28	2,383
Sawtelle	53	2,143
Scales	17	217
Scotia	4	513
Scott Bar	2	212
Sebastopol	20	1,233
Selma	44	1,750
Shasta	6	634
Shasta Retreat	2	617
Sheepranch	31	249
Sheridan	19	218
Sierra City	17	512
Sierra Madre	53	1,308
Sierraville	17	350
Silver Lake	54	214
Simons	53	312
Sisson	2	636
Soldiers Home	53	2,300
Soledad	40	503
Somerset	2	210
Sonoma	20	957
*Sonora	38	2,029
Soquel	35	426
Soulsbyville	38	250
So. Pasadena	53	4,649
South San Francisco	34	1,989
Stanford Univ.	36	700
Stege	29	510
*Stockton	30	23,253
Stonyford	14	315
Suisun	23	641
Summerland	51	250
Sunolgien	33	328
*Susanville	7	688
Sutter	15	410
Sutter Creek	26	2,015
Sycamore	14	204
T		
Taylorsville	19	245
Tehachapi	50	385
Tehama	8	221
Temecula	56	220
Templeton	49	308
Thermal	56	721
Thomasson	23	315
Tiburon	28	207
Tipton	47	366
Tobin	34	250
Tomales	28	424
Tracy	30	382
Touckee	18	1,239
Tulare	47	2,758
Turlock	37	1,573
Tustin	55	810
U		
*Ukiah	10	2,136
Upland	54	2,384
Upper Lake	13	205
Urban	25	315
V		
Vacaville	23	1,177
Vallejo	23	11,340
Valley Springs	31	298
Vallicita	31	318
*Ventura	52	2,955
Vina	8	218
Vineburg	20	215
*Visalia	47	4,559
Vista Grande	34	2,124
Volcano	26	433
W		
Walnut Creek	29	550
Washington	18	359
Washington (Broderick)	22	815
Watsonville	35	4,446
Watts	53	1,922
*Weaverville	5	1,100
Westport	10	593
Wheatland	16	481
Whitehouse	6	300
Whittier	53	4,550
Williams	14	630
Willets	10	1,154
*Willow	11	1,139
Wilmington	53	206
Windsor	20	483
Winters	22	910
Woodbridge	30	203
*Woodland	22	3,187
Woodside	34	205
Wrights	36	289
Y		
Yolo	22	284
Yountville	21	307
*Yreka	2	1,134
*Yuba City	15	1,160

Opportunities in Agriculture and Varied Enterprises

Diversity of industries. The state of California, 770 miles long and 375 miles wide, is a region especially interesting to the land seeker. It is a land of opportunity. The adventurer here may engage in a variety of enterprises, with prospects of success.

Mining for gold and silver has been and yet is a most profitable work. Successful mining enterprises are in operation in San Bernardino, Inyo, Mono and other counties, while the vast mountain ranges, extending throughout the length of the state, contain great quantities of mineral yet to be discovered.

FRUIT GROWING AND GENERAL FARMING.

Wheat raising employs large numbers of workmen. Fruit growing is rapidly developing. The refining of petroleum and its conversion into fine oils will be an immense enterprise in future years.

The climate of California is favorable for grape growing and the manufacture of a favorite wine of world wide reputation. The installation of great irrigation works will call for the service of multitudes of men. The development of power for manufacturing, transportation, heating and lighting from the immense water-power now going to waste will come forward soon. The utilization of the vast asphaltum beds for road making is close at hand.

The fisheries, sugar making, poultry growing, dairying, lumbering, seed growing, furniture making and other industries are all just on the verge of unlimited development.

NEWCOMER MAY TAKE HIS CHOICE.

Here is the raw material in wonderful abundance. It is only for the newcomer to make his selection of what he will do. The Panama Canal was opened for traffic in the fall of 1914 and the event was celebrated by great expositions in 1915 in San Francisco and San Diego. Henceforth the shipment of California products to the Eastern States and to Europe will be greatly facilitated.

The land seeker may come, if most convenient, on either the Santa Fe or Southern Pacific railways into California and begin investigation at San Diego, in San Diego County.

STATE YET THINLY POPULATED.

In this great state, three times as large as New York, the population is still relatively small, but it is increasing rapidly.

It takes but a little time to become impressed with the vast possibilities of California. Thirty million acres here are in forest. Much of this being covered by the famous red woods of such immense size as to give a million feet of lumber to the acre.

So abundant is this timber and so prolific in great trees as to cause the government to put ten million acres of this timber area into national parks, leaving yet enough for manufacturing and export for generations to come.

It only wants a very brief time in consideration to note the future probabilities of California. Here is a state with an area sufficiently large to permit the residence of fifty millions of people within its borders; here is soil for growth of grain, vegetables and fruits; here are mountain streams for irrigation and power for manufacturing; here are mild temperature and sunshine; here are metals, marbles, oils and all the essentials for production of food, building, raiment and furnishings.

TO BE A GREAT MANUFACTURING CENTER.

Here is enough of raw material to put many million at work and the transportation facilities to carry the products of these many millions to all parts of the world.

The average rainfall ranges from ten to twenty inches in northern California and is less in the southern part of the state, but artesian wells and irrigation are expected to give a sufficiency of moisture for crop raising.

The mild weather of the winters in southern California is attracting a larger and a larger number of residents to Los Angeles, San Diego and other southern California cities every year, the consequence being a steady advance in real estate values, particularly in the suburbs of these cities.

AGRICULTURISTS AND HORTICULTURISTS.

To land seekers wishing to engage in agriculture or horticulture it will be interesting to know that in 1907 there were over 30,000,000 acres of government land in California yet open for homestead settlement.

To investigate farming or to engage in fruit raising it is well to go out to Bakersfield in Kern county and follow down the San Joaquin valley northward to San Francisco, stopping from time to time at the various towns on the way while passing through Tulare, Kings, Fresno, Mercer and other counties in the San Joaquin valley.

This valley contains upward of 30,000 square miles, being nearly four times the size of Massachusetts. There are a dozen counties in this valley, but if the seeker for land can go no farther he should go into Kern, Tulare, Kings and Fresno counties at least.

Three thousand oil wells are in Kern county and in this county can be seen the operation of one of the California irrigation systems.

The great fruit orchards will interest the visitor in Tulare county.

California Opportunities in Agriculture and Varied Enterprises

COST OF PLANTING FRUIT ORCHARDS.

Fruit land here costs from $50 to $75 per acre. The cost of preparation of the land and planting trees (apples, peaches or prunes) amounts to $25 per acre of seventy-five trees. They come into bearing on the average on the fifth year. Four years care will cost about $24 an acre for this period. Counting interest on the investment and incidentals, by the time the fruit orchard comes into bearing the cost in this locality is $160 per acre.

The crop of prunes, at three cents a pound, will yield $150 per acre. Deducting $15 per acre for drying, $10 per acre for interest and $12 per acre for care and the net return is $112 per acre.

Thus, suppose a person were to buy and put in ten acres of prunes, the profits per year, after the crop came into bearing, would be $1,120 per year.

The returns would be the same for peaches or apples. Various fruit and land companies in Tulare county who capitalized their lands at $200 an acre have paid profits of from 27½ to 38½ per cent.

There are 7,500 acres under cultivation in citrus fruits in Tulare county, with an output of 30,000,000 pounds a year, more than half of which are dried.

PICKING AND PACKING FRUIT.

The picking, packing, drying and canning of the crop calls for the services of some 4,000 people, mostly boys and women. Everybody in the county works while the rush is on. Girls in the packing houses and canneries make from $1 to $1.75 per day and boys, by whom most of the picking is done, make from $1.50 to $2.50 per day.

Orange land may be had at $25 to $100 per acre, the price depending upon whether the land is ready for use or must be developed by the purchaser. An orchard four years old begins to bear. The profits run from $125 to $200 per acre when in full bearing.

Raisins are also an important product of Tulare county. When in full bearing, at six and seven years, the yield is from a ton to a ton and a half per acre, and the returns, when the market is normal, average around $100 per acre. Raisin land in this district may be had at from $30 to $50 per acre. Lands higher in price are those closely adjacent to large cities.

Fresno is a fine county containing 5,600 square miles, being larger than the state of Connecticut, and has a population of only about 41,000, of which nearly half live in Fresno city.

The rainfall here is about ten inches a year.

Fresno county produces annually two or three million bushels of wheat, besides other grains, ten or fifteen million pounds of wool, a million dollars' worth of deciduous fruit, four or five million pounds of figs, hundreds of car loads of raisins and a million dollars' worth of wine. One creamery in Fresno (and there are six) produces 6,000 pounds of butter a day. These are but a fraction of the total product.

Good raisin land may be had in Fresno county for $35 an acre and upward. The returns are estimated at $80 and $100 per acre. Figs pay $250 to $275 per acre.

UNLIMITED POSSIBILITIES.

The entire state of California is a land of boundless possibilities. The southern counties, including San Diego, Los Angeles, Riverside, Orange and San Bernardino counties, send 30,000 cars of oranges to eastern markets every season and the growers make a profit of $250 to $400 an acre.

There are broad ranges of land yet in southern California devoted to dry ranching, where thousands of acres are plowed with steam plows and wheat is harvested with great combination headers and threshers. This land, it is expected, will later, as the county settles up, come into fruit raising with greater profit.

CONDENSED FACTS RELATING TO THE STATE.

Altitude. Highest points, feet: Mt. Whitney, Tulare county, 14,887; Mt. Shasta, Siskiyou county, 14,442; Mt. Tyndall, Tulare county, 14,386; Mt. Karveah, Tulare Co., 14,000; Mt. Lyell, Mono county, 13,217; Mt. St. Bernardino, Bernardino county, 8,370; Mt. Hamilton, Santa Clara county, 4,450; Mt. Lowe, Los Angeles county, 4,000; Mt. Diablo, Alameda county, 3,876.

Climate. Average temperature: At Sacramento, Sacramento county, January 46, July 72. Highest 110, lowest 19 above zero. Rainfall 20.9 inches.

At San Diego, San Diego county, January 54, July 67, highest 101, lowest 32. Rainfall 10.5 inches.

History. Explored by Spanish 1542. San Diego founded by Spanish missionaries 1769, who established in all twenty-one missions in California extending north from San Diego to San Francisco. Territory became part of Mexico 1822. Pioneers from United States entered 1826. Fremont's expedition 1844-5; gold found in Coloma, Eldorado county, 1848. Ceded by Mexico to United States, 1848.

Notable places. Cliff House and Seal Rocks in San Francisco.

Leland Stanford University at Palo Alto, Santa Clara county, thirty-four miles from the city.

Lick Observatory on Mt. Hamilton, Santa Clara county, 26 miles from San Jose, the latter place being 51 miles from San Francisco.

The Yosemite valley, Mariposa county, containing six square miles shut in by sheer walls from 3,000 to 5,000 feet high.

Near this valley are the big redwood trees in Calaveras and Mariposa counties. The Yosemite lies eastward of San Francisco some over one hundred miles.

The guide books mention many other very interesting places to visit in California.

San Francisco—This metropolitan city stands preeminently the financial center of the Pacific Coast. This has long been wholesale headquarters for all leading enterprise westward from the Rocky Mountains. It stands in the midst of a group of wealthy cities, which aid in maintaining its supremacy. These towns include Oakland, Sacramento, Berkeley, San Jose, Alameda, Stockton, Vallejo, Santa Cruz, Eureka, Santa Rosa and others.

But while much may be said favorable to cities in the northern part of California, there are also many important and prosperous cities in the southern part of the State. Here, for example, is

Los Angeles, the metropolis of southern California. This city is particularly notable from its very rapid growth in the past few years. Coming here for only temporary residence visitors find delightful, healthful climate, mingled with such beauty and other attractions as to induce them to remain permanently. Here is a group of southern California cities, the citizens in which claim that the Los Angeles district is the Garden Spot of the Universe. These cities include Pasadena, San Diego, Long Beach, Riverside, Redlands, Santa Ana and others.

California Big Trees. Forty-seven miles from Milton Station, on the Stockton and Copperopolis (Cala.) Railway, the tourist comes upon the Calaveras Big Trees, the highest of which tapers upward a distance of 435 feet, and has a circumference, near the ground, of 110 feet, while another, forty miles from Visalia, on King's River, measures 44 feet in diameter. This is the largest in California. The Mariposa group of forest giants comprises 600 trees, 125 of which are each over 13 feet thick, while several are from 30 to 33 feet in diameter. One, remarkable for its grand dimensions, rises to a height of 90 feet and there throws out a limb having a thickness of six feet. The route to the Yosemite Valley passes near these monsters.

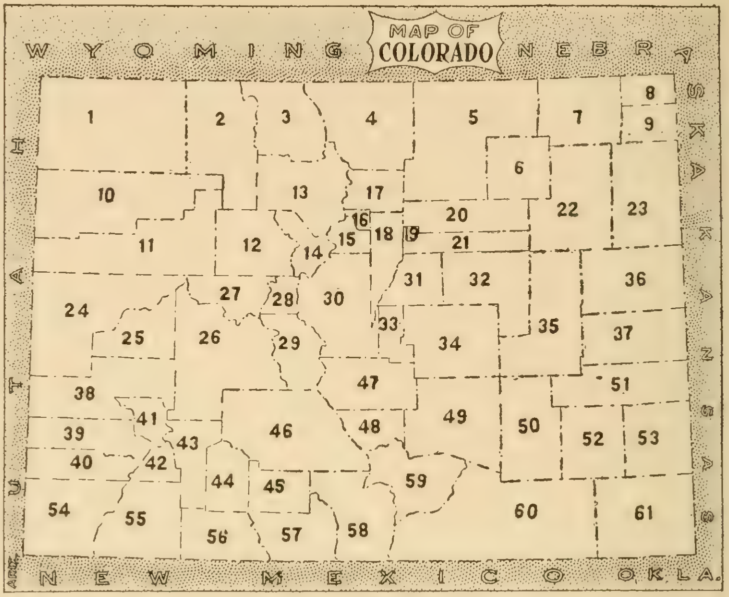
The Yosemite Valley. Reached by four stage routes. Situated on the Merced River, Mariposa County, Cal., 220 miles (by road) from San Francisco. The Valley contains a level plateau about 6 miles long and from ½ to 1 mile wide, and is surrounded by granite cliffs, rising almost perpendicularly to a height varying from 3,000 to 6,000 feet. From the tops of these cliffs spring magnificent and beautiful cataracts. All through the valley flowers abound, relieved with plants and shrubs, and their varied hues and odors are delightful to the senses. The valley has been known since 1851, and is the property of the State, set apart for a public resort. The name Yosemite, given to it by the Indians, means "Large Grizzly Bear." "El Capitan" is a solitary stone pillar, with a perpendicular elevation of 3,300 feet. The "Bridal Veil," a cataract of great beauty, falls over a cliff 900 feet high. Opposite to it is "The Virgin's Tears Creek," with a fall of 1,000 feet. "Cathedral Rock" is a granite pile, 2,660 feet high. "The Spires" are two graceful columns. "The Three Brothers" is a triplet group of rocks, the highest peak of which rises 3,830 feet. "Sentinel Rock" is 3,043 feet high. "The Yosemite Falls" is a grand piece of scenery, broken into cascades, the first having a fall of 1,500 feet; then shorter ones to a depth of 626 feet, and finally a plunge of 400 feet into the valley. East of the Falls is a bold peak, rising 3,030 feet above the valley. The "Half Dome," in the vicinity, is a granite crest rising nearly 5,000 feet above the valley. "North Dome" is 3,568 feet high. "Vernal Fall" descends about 400 feet. The "Cap of Liberty," a huge mass of rock, is 2,000 feet high. "Nevada Fall" is nearly 600 feet high. The views from the various points of the valley reached by travelers are among the sublimest in the world.

STATE AND THE 61 COUNTIES OF COLORADO

With Their Boundaries

Location and Population of COLORADO COUNTIES

Location	COUNTIES	Pop. 1910
1	Moffat	
2	Routt	7,561
3	Jackson	1,013
4	Larimer	25,270
5	Weld	39,177
6	Morgan	9,577
7	Logan	9,549
8	Sedgwick	3,061
9	Phillips	3,179
10	Rio Blanco	2,332
11	Garfield	10,144
12	Eagle	2,985
13	Grand	1,862
14	Summit	2,003
15	Clear Creek	5,001
16	Gilpin	4,131
17	Boulder	30,330
18	Jefferson	14,231
19	Denver	213,381
20	Adams	38,872
21	Arapahoe	10,263
22	Washington	6,002
23	Yuma	8,499
24	Mesa	22,197
25	Delta	13,688
26	Gunnison	5,897
27	Pitkin	1,556
28	Lake	10,600
29	Chaffee	7,622
30	Park	2,492
31	Douglas	3,192
32	Elbert	5,331
33	Teller	14,351
34	El Paso	43,321
35	Lincoln	5,917
36	Kit Carson	7,483
37	Cheyenne	3,687
38	Montrose	10,291
39	San Miguel	4,700
40	Dolores	642
41	Ouray	3,514
42	San Juan	3,063
43	Hinsdale	646
44	Mineral	1,293
45	Rio Grande	6,563
46	Saguache	4,160
47	Fremont	18,181
48	Custer	1,947
49	Pueblo	52,223
50	Otero	20,201
51	Kiowa	2,899
52	Bent	5,053
53	Prowers	9,520
54	Montezuma	5,029
55	La Plata	10,812
56	Archuleta	3,302
57	Conejos	11,285
58	Costilla	5,498
59	Huerfano	13,320
60	Las Animas	33,643
61	Baca	2,516
Total		799,024



COLORARO TOWNS WITH 1910 POPULATIONS.

Towns	*Loca.*	*Pop.*
A		
Aguilar	60	858
*Akron	22	647
Alamosa	57	3,013
Alma	30	301
Amity	53	251
Animas	55	201
Antonito	57	681
Argo	19	201
Arloa	54	202
Arvada	18	841
*Aspen	27	1,834
Atwood	7	251
Ault	5	569
Aurora	20	679
Avondale	49	251
B		
Bald Mountain	16	801
Basalt	12	235
Bayfield	55	227
Beacon	60	350
Berthoud	4	758
Berwind	60	602
Blackhawk	16	668
Blanca	58	351
*Boulder	17	9,539
*Breckenridge	14	834
*Brighton	20	851
Brodhead	60	352
Brookside	47	201
Brush	6	997
*Buena Vista	29	1,041
*Burlington	36	368
C		
Calcite	47	202
*Canon City	47	5,162
Capulin	57	600
Carbondale	11	284
Carnero	46	251
*Castle Rock	31	365
Cedaredge	25	295
Center	46	385
*Central City	16	1,782
*Cheyenne Wells	37	272
Coalcreek	47	676
Cokedale	60	502
Colorado City	34	4,333
*Colorado Springs	34	29,078
Como	30	411
*Conejos	57	301
*Cortez	54	565
Coventry	38	401
*Craig	1	392
Crawford	25	201
Creede	44	741
Crested Butte	26	904
Crestone	46	231
*Cripple Creek	33	6,206
Cucharas	59	351
Curtis	34	502
D		
Delagua	60	958
*Del Norte	45	843
*Delta	25	2,388
Denver (capital)	19	213,381
Dolores	54	821
*Durango	55	4,680
E		
Eaton	5	1,157
Edgewater	18	712
Edith	56	293
Elkton	33	301
El Moro	60	351
Engle	60	801
Englewood	21	2,983
Erie	5	596
Espinoza	57	401
Estes Park	4	301
Evans	5	602
F		
*Fair Play	30	265
Florence	47	2,712
Florissant	33	268
*Fort Collins	4	8,212
Fort Garland	58	201
Fort Logan	21	2,501
Fort Lupton	5	614
*Fort Morgan	6	2,802
Fountain	34	431
Fowler	50	925
Frederick	5	266
Fruita	24	881
G		
Galatea	51	201
Gary	6	202
*Georgetown	15	952
Gilman	12	351
*Glenwood Springs	11	2,019
*Golden	18	2,477
Goldfield	33	1,112
Gorham	17	352
*Grand Junc.	24	7,754
Granite	29	251
Graycreek	60	576
*Greeley	5	8,179
Grommet	55	400
Guffey	30	302
Gulch	27	401
*Gunnison	26	1,026
Gypsum	12	301
H		
Hastings	60	693
Haxtum	9	341
Hayden	2	314
Henderson	20	302
Hesperus	55	201
Highpark	33	251
Holly	53	724
*Holyoke	9	659

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Colorado Cities and Villages with 1910 Populations—Continued

Towns	*Loca.*	*Pop.*
Hotchkiss	25	602
Howardsville	42	301
*Hugo	35	343
I		
Idaho Springs	15	2,154
Ideal	59	252
Independence	33	801
J		
Jasper	45	301
*Julesburg	8	962
K		
Kersey	5	304
Kline	55	501
L		
Lafayette	17	1,892
La Jara	57	448
*La Junta	50	4,154
*Lake City	43	405
*Lamar	53	2,977
*Las Animas	52	2,011
La Veta	59	691
*Leadville	28	7,508
Limon	35	534
*Littleton	21	1,373
Loma	24	801
Longmont	17	4,256
Louisville	17	1,706
Loveland	4	3,651
Lujane	38	202
Lupton	5	501
Lyons	17	632
M		
McKissick	5	201
Maitland	59	351
Manassa	57	788
Mancos	54	567
Manitou	34	1,359
Manzanola	50	428
Marble	26	782
*Meeker	10	807
Minturn	12	241
Montclair	19	415
Monte Vista	45	2,544
*Montrose	38	3,254
Morrison	18	251
Mountain View	18	391
Mt. Morrison	18	351
N		
Nederland	17	446
Nevadaville	16	367
New Castle	11	493
New Windsor	5	1,503
*North Creede	44	1,101
North Longmont	17	262
Norwood	39	212
O		
Oak Creek	2	222
Olathe	38	458
*Ordway	50	705
Ortiz	57	501
*Ouray	41	1,644
Overland	19	251
Oxford	55	501
P		
*Pagosa Springs	56	669
Paisaje	57	201
Palisades	24	903
Paonia	25	1,011
Perigo	16	201
Pierce	5	352
Pitkin	26	253
Platteville	5	432
Portland	47	601
Primero	60	2,011
*Pueblo	49	44,395
R		
Radiant	47	201
Ramah	34	201
*Redcliff	12	383
*Rico	40	368
Ridgway	41	376
Rifle	11	698
Rock Creek	12	351
Rocky Ford	50	3,231
Romeo	57	201
Rosemont	33	501
Roswell	34	351
Roubideau	25	202
Rouse	59	551
Rugby	60	252
Russell Gulch	16	702
Rye	49	252
S		
Salida	29	4,425
San Rafael	57	261
Sanford	57	564
*San Luis	58	903
Sedgwick	8	201
Segundo	60	602
Sheridan	21	498
*Silver Cliff	48	252
Silver Plume	15	462
*Silverton	42	2,153
Sneffels	41	751
Somerset	26	421
Sopris	60	302
South Canon	47	1,321
South Canon	11	203
Starkville	60	1,002
Steamboat Springs	2	1,227
*Sterling	7	3,044
Sugar City	50	808
Superior	17	349
Swink	50	310
T		
*Telluride	39	1,756
Tercio	60	501
Thomasville	27	202
Tioga	59	253
*Trinidad	60	10,204
V		
Valverde	19	665
Victor	33	3,162
W		
*Walsenburg	59	2,423
Wellington	4	459
Westcliffe	48	232
Weston	60	601
Whitehorn	47	502
Williamsburg	47	556
Windsor	5	935
*Wray	23	1,001
Y		
Yampa	2	332
Yuma	23	333

COLORADO

A YOUNG STATE—A MOST INTERESTING STATE OF GREAT POSSIBILITIES IN MINING, AGRICULTURE, PLEASURE AND HEALTH RESORTS.

For wild picturesque scenery in a State more than three times the size of New York, where mountain elevations are more than **14,000 feet high,** where **500 lakes** and **6,000 miles** of trout streams afford opportunity for fishing, where panthers, **grizzly bears,** wild cats, wolves, foxes, badgers, beavers, antelope, ducks, geese, rabbits, squirrels, doves, and mountain quail make opportunity for hunting, where **340 sunshiny days** in the year make an atmosphere so clear that objects can be seen **one hundred miles** away, where on the broad mesas and elevated plateaus the life-giving air is so full of ozone as to make the whole region one grand sanitarium; where there are **12,000 miles of irrigating** ditches which water 4,000,000 acres, 2,000,000 of which are under cultivation; where there are yet over 26,000,000 acres of **government land** ready for homestead settlement—wanting **to investigate all this,** and a good deal more, the land seeker may look up a railroad guide and learn that a **two thousand mile ride** from the Atlantic cities, and a thousand-mile journey from the **central cities** of the United States will take him into the center of this State, and to the **capital of Colorado,** where the rocks, the mines, the cascades, the tunnels and the singular freaks of nature will be found to have surpassed any description we can give of the State.

A LONG, DREARY RIDE.

Going westward from the Central States it may seem a dreary ride across the prairie and desert regions before reaching the destination, but **all at once** he will be surprised by entry into one of the most beautiful cities in the world, and the surprise is **all the greater** when it is known that the State has been settled but fifty years and came into the Union only about thirty years ago.

The Capitol City of this young State is Denver, named from Gen. James W. Denver, a former governor of Kansas Territory, of which Colorado was then a part.

FACTS ABOUT DENVER.

Here are some facts about Denver. It has a population of 214,000; is located 5,200 feet above sea level; has 155 miles of street car lines; 155 churches; 73 public school buildings; 11 colleges and academies; a public library containing 75,000 volumes; 4 daily papers; 20 clubs; 23 hospitals and asylums; 5 national banks; 11 parks, one of them covering 330 acres; 7 theaters; 2 summer gardens, and many fine hotels.

An excellent way to see Denver is by "Seeing Denver" **cars and automobiles,** which make the circuit of the city several times each day during the summer season.

These cars leave from central points and take one not only through the **city** itself but through **the suburbs.**

CANNOT DO JUSTICE TO THIS SUBJECT.

It is impossible in our sketch to enumerate the many interesting places to visit in Colorado, and it is equally **difficult to describe** the general appearance of the region. One writer says:

"**The Rocky Mountains,** in their majestic sweep through the North American continent, culminate midway in their course, and within the limits of the State of Colorado. **Here is the 'crest of the continent'**—its **supremest uplift**—where from a vast central plateau, itself 6,000 feet above the sea, rise **hundreds** of granite peaks into the regions of **perpetual snow.** Here the waters of a continent are divided and great rivers flowing to either ocean have their source. **Here are canons** and gorges, aweinspiring and stupendous, which testify to the hoary age of the mountains they cut asunder; and a score of peak-encircled parks; **any one** of which might constitute a principality.

"**Here are** the continent's treasure vaults, where veins of gold and silver seam the granite mountains.

"**Here are medicinal springs** for healing and refreshment; and here, under skies of deepest blue, lies a **sun-bathed land** with a climate whose delights and perfections the lowland dweller may not know."

Colorado Opportunities in Agriculture and Varied Enterprises

UNABLE TO DESCRIBE ALL.

But omitting descriptions of many interesting places we note two points: Colorado Springs and Manitou. The first with a population of 25,000 people, the last with half that number in the tourist season.

Colorado Springs is a **resting spot** for people who enjoy climate and scenery. **It has broad streets** and many beautiful homes. It is the quiet meeting place for the **successful miner** who comes down from the mountains to greet his friends from the East. It is the delightful rendezvous of **wealthy cattle raiser,** the rich tourist, and the invalid who has been instructed to go somewhere into sunshine and take up residence in **pure invigorating air.**

But a short distance away is Manitou, the **"Saratoga of the West.".**

Nestling right here at the foot of Pike's Peak, in a charming valley through which runs **a rapid stream** at all seasons is this town, filled with **tourists** throughout the summer season.

There are **fourteen springs** in all, no two of them alike, and one of them the largest known soda spring in the world.

Five large hotels, several smaller ones, and many boarding-houses, here are filled to their utmost capacity during the summer.

OPPORTUNITIES FOR PERMANENT SETTLERS.

But leaving the watering places and pleasure resorts for the enjoyment of those who are temporarily in the State, we will examine the inducements that offer new settlers in Colorado.

Wherever there are mountains there are valleys between, and many of these in Colorado include broad plateaus, and nowhere in the United States is there better opportunity for the study of irrigation and its effects on crops than in this State.

To the American farmer irrigation is almost a new thing. There has never been any necessity for him to consider it in the **wonderful growth** of this republic. He has in his achievements, up to the present time, **been independent** of all things artificial in his work upon the virgin soil he plowed, and has been content with the timely rains that fell upon it.
But with the rapid spread of population much arid soil is found which can only be made habitable by artificial water supply.

ORIGINATORS OF IRRIGATION IN THIS REGION.

The Mormons were the first to **intelligently** apply irrigation in the territory now occupied by the United States. They had come far away from civilization at the East and settled in a region so **hopelessly arid** that it was a certainty no one could ever molest them there. But in order to live they **must have moisture** for their fields. They brought it from the mountain streams then running to waste, and the fertile fields of Utah testify to the worth of irrigation.

The next experiment, on a considerable scale, was at Greeley, Colorado. There the farmers, through much costly experience, have finally triumphed over sand and sage, rock and alkali, reclaimed the waste land, and made a model fruit and farm land, which has taught important lessons to others in the reclamation of arid land in Colorado, New Mexico, Arizona and California. We explain this elsewhere.

Like the annual overflow of the river Nile which enriches the Egyptian valleys, so the life-giving elements in irrigatng water is of itself an important means of fertilization.

A striking illustration of the effect of irrigation is shown in the valley of the Arkansas river in Prowers, Bent, and Otero counties, a region where formerly there was only alkali, sage brush and sand. To witness this go southward from Colorado Springs forty miles to Pueblo, thence east about 100 miles. Somebody turned the waters of the Arkansas into the river valley in the vicinity of Rockyford, Otero County, and, behold, that barren valley became a garden spot where land yields 60 bushels of wheat to the acre, 6 tons of alfalfa to the acre, 25 tons of sugar beets, and 300 bushels of sweet potatoes to the acre.

ORIGIN OF THE ROCKYFORD MELON.

Here adjoining the Arkansas river, is the thriving young city of Rockyford, a town of 2,500 people, and here is the home of the **original Rockyford cantaloupe,** which has an established reputation in all the markets of the country.

It is here where orders are received for the Rockyford cantaloupe seed, the rich irrigated land here turning out in some cases 400 pounds of seed per acre.
The merit of this melon is that it always grows a uniform size, such that 45 melons can be packed in a standard crate 12x12x24, permitting dealers to make **quotations on Rockyfords,** knowing the quality of the melon and the exact number in a crate.

From this seed sent out it is estimated that there are now over 60,000 acres of Rockyford cantaloupes being cultivated and that there are 7,000 carloads consumed every six months.

MELONS AND SUGAR BEETS.

But what can be said of the irrigated land in the Arkansas river valley in relation to melons may be said of sugar beets, cabbages, tomatoes, cucumbers, asparagus, parsnips, carrots, apples, plums, cherries, peaches and all the small fruits.

In the purchase of farm property the land seeker will remember that price is measured generally by the capacity of land to yield money return. Thus, land at $250 and $500 per acre may be cheap, depending on improvements and profit to be obtained, while land at $5 per acre **may be dear.**

Thus irrigated land in the vicinity of Rocky Ford is worth from $200 to $500 per acre, but equally as good land in this region may be bought at a price varying from $30 per acre upwards.

Before leaving Colorado, the land seeker should return by way of Pueblo to Gunnison and thence to Montrose, in Montrose County.

The United States Government is at work in Montrose and Delta counties, for the purpose of utilizing rivers in these counties which will irrigate 120,000 acres of land. Irrigation projects by the government are also in contemplation in the vicinity of Green Junction, Mesa County, and along the White and Yampa Rivers in Routt and Rio Blanco Counties. See our mention of these elsewhere.

The Montrose and Delta project is expected to cost about $3,500,000.

People who are attracted by Colorado climate and wish to buy fertile land in this State will do well to go to Montrose and there study the prospects for new settlers in the Uncompatigre valley.

Altitude.—Highest points, Feet: Sierra Blanca 14,483. Pike's Peak, 14,271 and over forty mountains over 14,000 feet high.

Climate.—Average annual temperature at Denver: January, 27 degrees above; July, 72; highest, 105; lowest, 29 below; rainfall, yearly 14½ inches.

Dimensions.—Extreme breadth, east to west, 375 miles. Extreme length north to south, 270 miles.

History.—Colorado was partially explored by Lieut. Pike in 1806, and in 1819 by Col. Long, from whom Long's Peak is named. The American Fur Company followed in 1832 and Fremont in 1842-4. In 1854 colonists founded Connejos in the Rio Grande valley. Gold discovered in the northern part of the State in 1858. In 1859 thrifty intelligent settlers came in. **The Rocky Mountain News** was published.

In 1861 the Territory of Colorado was established with 9 counties. Admitted to the Union in 1876 as "The Centennial State."

Notable Places.—Denver, Manitou Springs, and over twenty points described in the guide books where there are famous mountain resorts, fine parks, hot springs, mineral and other springs.

SPECIAL COLORADO FEATURES OF INTEREST.

John Sebastian, in behalf of the Rock Island, has lately issued a work on Colorado, from which we copy the following:

COLORADO: WHY IT ATTRACTS. THE IDEAL VACATION-LAND.

To any one who has **not** been to Colorado the fact that so many thousands of people **do** go each summer for a period of rest or recreation must certainly suggest that there are strong reasons for it.

One is **at a loss to know where to begin** in setting forth these reasons, for they are many and of equal importance.

First of all, Colorado is a state so completely unlike the one in which you live that you must see it if you are to fully realize what a wonderful country is this of the Stars and Stripes.

Colorado is a wide, free land of mountain heights and canon depths, of grassy plain and high plateau. It is a land of clear pure air and golden sunshine. It is a land of sparkling mountain streams and glassy-surfaced lakes. It is a land of many kinds of fish and fowl—wild animals roam the more inaccessible portions of the mountain country, emerging even to the remote lower levels.

Colorado, a Most Interesting Region for Tourist and Traveler

Should you seek health, or rest, or sport, or any of the various forms of pleasure, ranging from restful enjoyment to venturesome quest, Colorado will provide the one and the all, and of such a kind as to captivate and to bring you back another season to taste again the joys of the Rocky Mountain region.

Colorado is pre-eminently **the place to do things,** and to enjoy immensely the doing. There is not a dull moment in the program of the Colorado visitor. If one **seeks the pleasure** of gay company he may have it in abundance. If one seeks a quiet solitude in which to forget the whirl of business or of social life, and to get near to Nature in a mountain camp, then Colorado offers the very best place to enjoy each form of pastime.

If one is not ready to relinquish the comforts and conveniences of city life,—lo! Colorado's countless resorts offer up-to-date hotels, or less pretentious stopping places, where every wish is gratified, withal at reasonable cost.

A very important factor in Colorado's popularity is its central location and ready accesibility from any section of the country.

There are one-night trains from Chicago, St. Louis and Kansas City, while the service from a score of other large cities in the middle west is equally good. And **it is but a two-nights' trip** from the Atlantic seaboard to the Rocky Mountains.

With the double purpose of **making it easy of reach** for those of moderate purse and of making it the Mecca of the many, the custom is to grant throughout the summer, very low rates for the round-trip to Colorado from all quarters. Frequently special excursions are arranged which bring the cost of the trip to a minimum.

To him who would try Colorado for this season's outing, the word is: watch the newspapers and the magazines for announcement of this season's rates. It will pay to do so. Very favorable arrangements will be made **to give you** an opportunity to taste the "high life" in Colorado.

Denver, Colorado Springs, Manitou and Glenwood are the best known and most popular of Colorado's resorts. It may seem odd to include Denver, a city of 185,000, in this category, but it belongs there. Denver is a summer resort, as well as a rich and beautiful city. Its hotels are maintained very largely **for the accommodation of summer visitors.** It is a place where one could spend a month to excellent advantage. It is the best starting point for a large number of attractive one-day trips to and through the mountains. It has scores of good restaurants, hundreds of boarding houses, parks, summer gardens, and a street railway system that has few equals. The mountains are **only thirty miles away**—they look much closer, but they are really quite a long way off.

Colorado Springs is the aristocrat of Colorado cities, the home of several thousand unusually well-to-do and exceptionally **cultivated people from all parts** of the country. It has fewer hotels than Denver and their variety, especially in the matter of price, is not as great. But for the man or woman who wants to **get away from the noise** and racket of a big city, and yet feels the need of having right at hand the conveniences and comforts of metropolitan life, Colorado Springs is ideal.

A MOST DELIGHTFUL PLEASURE RESORT.

Manitou has been called the "Saratoga of the West," and worthily does it bear the title. Very much smaller than Colorado Springs, it, nevertheless, in the course of a summer, entertains more people. It is a pleasure resort, first, last and all the time. In this respect it differs from Colorado Springs, which is essentially a city of homes. Manitou has half a dozen large hotels and perhaps twice as many smaller ones, to say nothing of innumerable boarding houses. The springs and the hotel ballrooms are Manitou's centers of activity. In the season, any time from July 1 to the middle of September, Manitou is as gay as anyone would want.

Glenwood lies in the very heart of the Rockies, about 300 miles west of Colorado Springs. Its location is magnificent, in a valley through which flows one of the largest of Colorado's rivers. It is referred to at length elsewhere in this publication. Meanwhile, it may be said that mention is here made of it—and this is true also of Denver, Colorado Springs and Manitou—simply in order that the reader may know, before he arrives in Colorado, what are the dominant characteristics of its **four leading resorts.** Superficial as the comment has been, it is, nevertheless, sufficient to give him a key to all four places.

However, it is only fair, not only to Colorado, but to the prospective visitor as well, to say that two of the four leading resorts of Colorado have little or nothing about them that is distinctively Coloradan. This **is not intended as a reflection** on either place. It means that with the exception of the always glorious climate, Manitou and Denver might be reproduced in any one of half a dozen other states without, being out of harmony with their surroundings.

DIFFERENT FROM MOST RESORTS.

Colorado is fortunate in possessing a number of resorts that are "different" from the general run of summering places. Their names? Estes Park is such a place. So, in a way, are the pretty lodges in Platte Canon. So are any number of the smaller towns and resort places in the interior. They are located on the sides of mountains, on the banks of streams where famous fishing is to be had, or near springs whose waters come bubbling to the earth's surface—queer of taste, hot to the touch, but "wonderfully good for you."

These are the places that are truly and typically Coloradan. These are the places where **one gets in touch with good old Mother Earth**; where, for the first time in years, perhaps, **one really realizes how beautiful** is the blue sky and how fine is a lungful of air, fresh from snowy peaks.

It is to these **out-of-the-way corners** that your true lover of Nature hies. Not for him the great hotel, with its army of servants and crowded hallways. Not for him the gay promenade of beauty and fashion. **He would woo the sweetest of all mistresses,** Dame Nature herself. And so, for a period, his letters bear queer superscriptions: "Such-and-such a place, Routt County, by stage from Eagle, via Bogg's Ferry."

The really best way to see Colorado is to go first to Denver or Colorado Springs. There one can get one's bearings. They are the tourist's headquarters, **the railroad and business centers** of the State, the places from which all roads lead into the interior. North of Denver is a rich, irrigated region; east, the rolling plains, sloping gently towards the Missouri; west, a veritable sea of mountains; south lie those gems of cities, Colorado Springs and Manitou, and beyond is Pueblo—the "Pittsburg of the West."

One more paragraph and this rambling chapter is finished.

You will wish to know **what sort of clothes to wear** in Colorado. That depends largely on what you intend doing there. If you expect to spend most, if not all, of your time in the cities, rather than to "rough it," you should take with you clothing of the weight and texture you would wear at home at that time of the year. A light overcoat, or a wrap, should be included, as should an umbrella or a raincoat. You will, of course, have with you clothing for all the social occasions that are likely to arise. A pair of **stout shoes, a soft hat and an old suit**—these for mountain climbing, etc.—are also desirable.

COLORADO'S SCENERY AND CLIMATE ARE COMPARED WITH SWITZERLAND.

Just why the Alps should be so often referred to when the Rockies are mentioned is inexplicable to those knowing both.

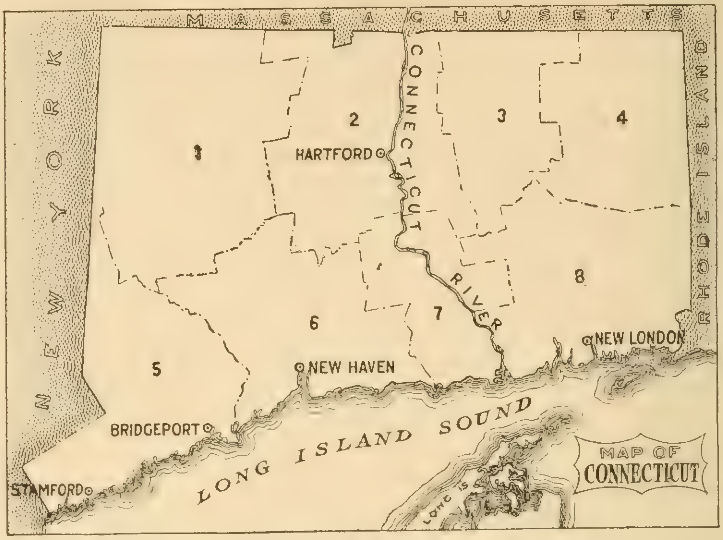
While the Alps have isolated peaks such as Mont Blanc (15,781 feet), and the Matterhorn (14,836 feet), the mean elevation of the highest Alpine chain is only from 8,000 to 9,000 feet. Colorado possesses more than 120 peaks of over 13,500 feet, of which no fewer than thirty-five are higher than 14,000 feet.

The highest village in Europe is Avers Platz in Switzerland (7,500 feet). The highest inhabited point in Europe is the Hospice of St. Bernard in Switzerland (8,200 feet). In Colorado the mining town of Leadville, with 15,000 inhabitants, is over 10,000 feet above sea level. Other mining camps are still higher and some gold and silver mines are worked at an elevation of over 13,000 feet.

In Switzerland the cog-railroad from Vitznau to the summit of the Rigi Kulm (5,900 feet), has a length of four and a half miles, in which the ascent is 4,072 feet. In Colorado the cog-railroad from Manitou to the summit of Pike's Peak (14,147) has a length of eight and three-quarters miles, in which the ascent is 8,100 feet or an average of 846 feet per mile, the maximum grade being 1,320 feet.

STATE AND THE 8 COUNTIES OF CONNECTICUT

With Their Boundaries



TOWNS OF CONNECTICUT WITH 1910 POPULATION.

Location and Population of CONNECTICUT COUNTIES

Location	COUNTIES	Pop. 1910
1	Litchfield	70,260
2	Hartford	250,182
3	Tolland	26,459
4	Windham	48,361
5	Fairfield	245,322
6	New Haven	337,282
7	Middlesex	45,637
8	New London	91,253
	Total	1,114,756

Cities and Villages of CONNECTICUT

Towns	*Loca.*	*Pop.*
A		
Abington	4	300
Adams	5	200
Addison	2	300
Allingtown	6	300
Andover	3	384
Ansonia	6	15,152
Ashford	4	700
Avon	2	1,077
B		
Bakersville	1	600
Ballouville	4	250
Baltic	8	500
Bantam	1	500
Beacon Falls	6	623
Bean Hill	8	450
Berlin	2	3,728
Bethany	6	517
Bethel	5	3,792
Bethlehem	1	576
Black Hall	8	250
Bloomfield	2	1,513
Boardman	1	300
Bolton	3	450
Bottsford	5	700
Bozrah Street	8	399
Bozrahville	8	200
Branchville	5	230
Branford	6	6,047
*Bridgeport	5	102,054
Bridgewater	1	600
Bristol	2	13,502
Broad Brook	2	1,300
Brookfield	5	600
Brookfield Center	5	400
Brooklyn	4	2,358
Buckland	2	400
Burlington	2	1,218
Burnside	2	1,256
C		
Canaan	1	1,803
Cannon Station	5	203
Canterbury	4	300
Canton Center	2	200
Centerbrook	7	300
Center Groton	8	750
Central Village	4	1,021
Chaplinville	1	335
Chaplin	4	529
Cheshire	6	1,389
Cheshire Sta.	6	400
Chester	7	1,328
Chesterfield	8	266
Clarks Falls	8	300
Clinton	7	1,384
Clintonville	6	200
Cobalt	7	321
Colchester	8	1,990
Colebrook	1	684
Colebrook River	1	684
Collinsville	2	2,100
Columbia	3	540
Comstocks Bridge	8	200
Coscob	5	500
Cranbury	5	500
Cromwell	7	2,031
D		
*Danbury	5	23,502
Danielson	4	5,335
Darien	5	3,946
Dayville	4	400
Deep River	7	1,484
Derby	6	8,991
Durham	7	500
Durham Center	7	381
E		
Eagleville	3	300
East Berlin	2	780
East Canaan	1	500
Eastford	6	250
Eastford	4	513
East Glast'bury	2	350
East Granby	2	684
East Haddam	7	900
East Hampton	7	1,400
East Hartford	3	8,138
East Hartland	2	297
East Haven	6	1,167
East Killingly	4	700
East Lynne	8	836
East Norwalk	5	3,500
Easton	5	300
East Port Chester	5	2,000
East River	6	330
East Thompson	4	275
East Windsor	2	3,362
East Windsor Hill	2	425
East Woodstock	4	350
Ellington	3	1,829
Elliot	4	200
Elmwood	2	300
Enfield	2	9,712
Essex	7	2,745
F		
Fairfield	5	6,134
Falls Village	1	600
Farmington	2	3,478
Forestville	2	3,207
G		
Gaylordsville	1	400
Georgetown	5	500
Gildersleeve	7	1,456
Gilead	3	350
Glasgo	8	800
Glastonbury	2	4,796
Glenbrook	5	320
Glenville	5	800
Goshen	1	520
Granby	2	571
Greenfield Hill	5	1,000
Greenwich	5	16,463
Griswold	8	4,233
Grosvenor Dale	4	900
Groton	8	6,495
Guilford	6	3,001
Gurleyville	3	227
H		
Haddam	7	400
Hadlyme	8	200
Hallville	8	400
Hamburg	8	265
Hamden	6	5,850
Hampton	4	479
Hanover	8	400
Hartford (capital)	2	98,915
Harwinton	1	1,213
Hawleyville	5	600
Hazardville	2	1,200
Hazardville Sta.	2	534
Hebron	3	416
Higganum	7	1,000
Highland Park	2	250
Highridge	5	535
Highwood	6	250
Hockanum	2	500
Hopewell	2	500
Hotchkissville	1	400
Huntington	5	6,545
I		
Ivoryton	7	650
J		
Jewett City	8	3,023
K		
Kensington	2	1,668
Kent	1	400
Kibbe	3	200
Killingworth	7	651
L		
Lakeville	1	1,075
Lebanon	8	1,221
Ledyard	8	936
Liberty Hill	8	200
Lime Rock	1	750
*Litchfield	1	3,300
Long Hill	5	400
Longridge	5	430
M		
Madison	6	918
Manchester	2	13,641

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. means Population. Star in Front of Name Indicates County Seat.

Connecticut Cities and Villages With 1910 Population

Towns	*Loca.*	*Pop.*
Manchester Green	2	
Mansfield	3	200
Mansfield Center	3	350
Mansfield Depot	3	250
Marble Dale	1	220
Marion	2	279
Marlboro	2	257
Mechanicsville	4	700
Meriden	6	27,265
Mianus	5	500
Middlebury	6	736
Middlefield	7	645
Middle Haddam	7	550
*Middletown	7	11,851
Milford	6	3,683
Milldale	2	350
Mill Plain	5	400
Millstone	8	200
Milltown	8	500
Monroe	5	300
Montowese	6	550
Montville	8	2,804
Montville Sta.	8	667
Moodus	7	1,200
Moosup	4	2,000
Morris	1	400
Mount Carmel	6	650
Mystic	8	3,000
N		
Naugatuck	6	12,722
Nepaug	1	445
New Britain	2	43,916
New Canaan	5	3,667
New Fairfield	5	584
New Hartford	1	2,241
*New Haven	6	133,605
Newington	2	694
Newington Jct.	2	347
*New London	8	19,659
*New Milford	1	5,000
New Preston	1	475
Newtown	5	3,012
Niantic	8	1,000
Nichols	5	300
Noank	8	1,750
Norfolk	1	1,614
Noroton	5	600
Noroton Heights	5	500
North Ashford	4	200
North Branford	6	362
North Canton	2	200
Northfield	1	600
Northford	6	367
North Franklin	8	546
North Granby	2	415
North Grosvenor Dale	4	2,900
North Guilford	6	500
North Haven	6	2,164
North Stamford	5	852
No. Stonington	8	500
Northville	1	400
North Westchester	8	250
North Wilton	5	389
North Windham	4	200
North Woodbury	1	700
No. Woodstock	4	350
Norwalk	5	6,954
*Norwich	8	20,367
Norwichtown	8	1,209
O		
Oakdale	8	325
Oakville	1	600
Occum	8	300
Old Lyme	8	730
Old Mystic	8	400
Old Saybrook	7	1,431
Oneco	4	409
Orange	6	11,272
Ore Hill	1	254
Oronoque	5	657
Oxford	6	952
P		
Packerville	4	200
Palmerton	8	1,010
Pequabuck	1	350
Pine Meadow	1	518
Pineorchard	6	500
Plainfield	4	6,719
Plainville	2	2,822
Plantsville	2	1,500
Pleasant Valley	1	300
Plymouth	1	5,021
Pomfret	4	500
Pomfret Center	4	531
Poquetanuck	8	500
Poquonock	2	900
Poquonock Bridge	8	350
Portland	7	3,586
Preston	8	1,507
*Putnam	4	7,280
Q		
Quaker Hill	8	200
Quinebaub	4	300
R		
Rainbow	2	312
Redding	5	400
Redding Ridge	5	240
Reynolds Bridge	1	300
Ridgebury	5	250
Ridgefield	5	3,118
Riverbank	5	300
Riverside	5	240
Riverton	1	200
Rockfall	7	200
Rockville	3	7,977
Rockyville	2	1,026
Roundhill	5	1,000
Rowayton	5	1,116
Roxbury	1	400
Roxbury Falls	1	200
Roxbury Station	1	400
S		
Salem	8	468
Salisbury	1	3,522
Sandy Hook	5	1,176
Sanford	5	340
Saugatuck	5	947
Scitico	2	534
Scotland	4	471
Seymour	6	4,786
Sharon	1	1,482
Sharon Valley	1	300
Shelton	5	4,572
Sherman	5	658
Silver Lane	2	500
Silvermine	5	400
Simsbury	2	2,537
Somers	3	500
Somerville	3	900
Sound Beach	5	800
South Britain	6	528
Southbury	6	460
South Cheshire	6	200
South Coventry	3	952
Southford	6	250
So. Glastonbury	2	960
Southington	2	3,411
South Lyme	8	200
So. Manchester	2	6,000
South Meriden	6	700
South Norwalk	5	8,968
Southport	5	1,250
So. Wethersfield	2	250
So. Willington	3	250
South Wilton	5	207
South Windham	4	400
South Windsor	2	650
So. Woodstock	4	350
Springdale	5	535
Square Pond	3	200
Stafford	3	900
Stafford Springs	3	2,460
Staffordville	3	450
Stamford	5	25,138
Stanwich	5	503
Stepney	5	350
Stepney Depot	5	250
Sterling	4	450
Stonington	8	9,154
Stony Creek	6	1,100
Storrs	3	200
Stratford	5	5,712
Suffield	2	3,841
T		
Taftville	8	4,300
Talcottville	3	550
Tariffville	2	570
Terryville	1	2,500
Terryville Sta.	1	350
Thomaston	1	3,300
Thompson	4	4,804
Thompsonville	2	4,000
*Tolland	3	1,036
Topstone	5	340
Torrington	1	16,840
Trumbull	5	887
U		
Uncasville	8	667
Union City	6	2,500
Unionville	2	1,998
V		
Vernon	3	9,087
Voluntown	8	847
W		
Wallingford	6	11,155
Wapping	2	789
Warehouse Point	2	1,250
Warren	1	432
Warrenville	4	200
Washington	1	500
Washington Depot	1	457
*Waterbury	6	73,141
Waterford	8	3,097
Watertown	1	3,100
Waterville	6	1,800
Wauregan	4	400
Weatogue	2	320
Westbrook	7	884
West Cheshire	6	400
Westchester	8	250
Westchester Sta.	8	250
West Cornwall	1	350
Westford	4	232
West Goshen	1	315
West Granby	2	313
West Hartford	2	2,186
West Haven	6	5,274
Westminster	4	200
West Norwalk	5	500
Weston	5	790
Westport	5	4,259
Westport Sta.	5	947
West Simsbury	2	320
West Stafford	3	237
West Suffield	2	820
West Thompson	4	250
West Torrington	1	453
West Woodstock	4	350
Wethersfield	2	3,148
Whitneyville	6	400
*Willimantic	4	11,230
Willington	2	352
Wilsonville	4	220
Wilton	5	417
Winchester Center	1	8,679
Windham	4	12,604
Windsor	2	4,178
Windsor Locks	2	2,997
Windsorville	2	250
Winnipauk	5	1,000
*Winsted	1	6,804
Wolcott	6	581
Woodbridge	6	852
Woodbury	1	852
Woodstock	4	350
Woodstock Valley	4	345
Y		
Yalesville	6	1,500
Yantic	8	600

CONNECTICUT

Advantages Offered in this State for New Settlers

It is not always that the land-seeker is in search of land. If he has a family or children pent up in the city, his ambition is to get away from the congested metropolis and secure a home, either in the suburbs of a city or in a state where there is ample opportunity for abundant and regular employment, and where his family may have the advantage of good society and educational facilities.

HOW TO GET A LIVING.

The first consideration with the land-seeker, after providing the family with a comfortable home, is **the means** of obtaining revenue by which there can be support for the household. **Even in new states,** and upon government lands, the family is no sooner settled than the head of the household, who has been trained possibly to some trade, or special vocation, often goes in search of a position in the line of employment to which he is accustomed.

The facilities for obtaining employment when he leaves his present place of abode is a subject that occupies the attention of every emigrant from one country to another, or when he leaves the city for life in the country.

WORK FOR ALL THE FAMILY.

In fact, it is usually more important to know that the family, in going to a new locality, can have constant employment and sufficient revenue to support the household than it is to immediately come into the possession of land.

It is because of the necessity for immediate revenue that causes the city resident to go no further away from the city than **the suburbs.** He has made the change from cramped, unhealthy quarters, in the metropolis, out to the land where the children can have clean play grounds, sunshine and pure air. And yet he retains his position in the city and his income continues.

And so great numbers of **land-seekers content themselves** by going into the outer edge of the city, taking up what land they require for the home, while the head of the house, and perhaps **several members** of the family, continue employment in the metropolis.

LEAVING THE CITY FOR THE COUNTRY.

In breaking away from the city and taking up abode in a new regime, the ever serious question is, **what can the emigrant do** after he gets to his destination. Great numbers of people, who go from cities in the East to new and cheap lands in the West, are clearly determined to engage in agriculture, and horticulture, buy their land with reference to following that line of employment, and act accordingly.

But all people are **not** predisposed to getting a **living from land.** Noble as that vocation is, they are not adapted to that work and prefer mechanical, clerical, mercantile, professional or other employment.

In breaking up a city home, therefore, and going into a new regime without previous definite engagement as to what shall be done after settlement in a new state, it is a matter of most serious import to consider what are the various oportunities for obtaining a livelihood in the new state.

PRIVILEGES IN CONNECTICUT.

This brings us to an examination of the advantages offered in Connecticut. This is a **representative New England State,** which has long been settled, the land in farms being valued on the average at $25.75 per acre. The size of the average farm is 107 acres and of these there are on the average improved 42 acres.

MANY MANUFACTURIES IN CONNECTICUT.

Connecticut is one of the most densely populated states in the Union. The state is so crowded with manufactures as to permit a dense population to find employment outside of agriculture. Hence the land-seeker can go into this state and feel that it will **not be** absolutely necessary to culitvate the soil in order to get income. Here are **abundant opportunities** to find employment in great numbers of industries.

Though a small state, a late census shows that there are over 7,000 industrial establishments, the claim being that within the limits of the state there is **manufactured everything** needed in civilization.

That this is a **manufacturing center** is shown in the fact that there are **over sixty villages** and cities in the state having a population of over 2,000 people

The various industries are favored by the **numerous streams** and the intelligence and inventivenes of its workmen. It is also fortunate through having, in great abundance, the raw material right here upon the ground for much of that which is to be made into the manufactured product.

THE DIFFERENT WOODS OF CONNECTICUT.

The forests supply pitch and white pine, red cedar, tamarack, aspen, beech, basswood, cherry, seven species of oak, two of ash, four of maple, four of birch, three of elm, hickory, pignut, black walnut, butternut, holly, hackberry, pepperridge, wild plum, sassafras, sycamore, tulip tree, poplar, dogwood, and willow.

THE RAW MATERIAL FOR MANUFACTURING.

The largest amount of feldspar used in the glazing of chinaware, quarried in the United States, comes from Glastenbury and Middletown. Portland, on the Connecticut River, is noted for its **brown stone** for building purposes. Marble, limestone, flagging stone, tiling, slate, fire-clay, and other stone are **unlimited** in amount. Iron ore has been mined here over 125 years.

EXPORTS OF CONNECTICUT.

Of course, large quantities of raw material come in **from other parts** of the world, the result is a great **output** of rubber goods, hardware, clocks, firearms, paper, carriages, cotton goods, silk, and woolen fabrics, machinery, hosiery, furniture, sewing machines, saddlery, pianos, tools, buttons and pins.

In the long list of industries, in which young and old can engage, examination will reveal that there is no better region into which the land-seeker can go, with the expectation of finding employment for every member of the family of suitable age, than Connecticut.

CONDENSED FACTS RELATING TO CONNECTICUT

Altitude. Bear Mountain, at Salisbury, Litchfield Co., 2,354 feet. Talcott Mountain, in the Holyoke Range, 995 feet.

Climate. The climate of the state, while changeable, is very healthful—the mortality being below the average of the other states. The short spring season opens directly into summer about May, and cold weather begins in November. The winters are severe, but dryness of the air is the compensation. Average annual temperature, 48°F. At New Haven, January average, 27; July 72. Extremes: highest, 100; lowest, 14 below. Average annual precipitation, rain and melted snow, 50.3 inches.

Dimensions: Length, north and south, 75 miles. Breadth, east and west, 90 miles.

History. England granted charter to Plymouth company in 1606. The Dutch opened a trading post at Hartford, 1623. First general court at Hartford, 1637. New Haven settled by Puritan colony, 1638. King Charles II in 1662 granted charter giving free government. In 1687 a new governor appointed by the king demanded of the general assembly that the charter be given up. It was brought forth, laid upon the desk, when suddenly the lights were extinguished, and unknown persons capturing the paper hid the document in an oak tree which became celebrated as the "Charter Oak." That charter continued as the Constitution of the province and state until the adoption of the present state constitution in 1818.

Public Institutions, Locations of. State Prison, Wetherfield, Hartford County; Reform School for Boys at Meriden, New Haven County; Industrial School for Girls at Middletown; a School for Imbeciles at Lakeville, Litchfield County; Asylums for the Insane at Hartford and Middletown; State Arsenal, Hartford; State Armory at New London; Soldiers' and Sailors' Home at Naroton, Fairfield County; Normal School, New Britain, Hartford County; State Agricultural School, Mansfield, Tolland County.

PRICES OF VARIOUS FARMS IN CONNECTICUT.

That the reader may know the opportunities for buying real estate in Connecticut we clip from a real estate bulletin the following advertisements. Write to the Secretary of State and he will bring you in connection with land dealers.

CONNECTICUT LANDS FOR SALE

To Give Readers Idea of Value of Lands

128 acres **$3,000**

Located only two miles from the railroad station and smart village, where there is store, school, blacksmith shop, creamery, etc.; land suitably divided into pasture, wood and meadow land; soil of a dark loam, land mostly level, fields smooth and free from rocks; plenty of apples, pears, peaches, plums, grapes, berries, etc.; old-fashioned two-story house of eight rooms, painted; three fireplaces; supplied by running water; very pleasantly located, well shaded, bordering twelve to fourteen rods on a large trout brook; two large barns, hennery, ice house, weed shed, milk cooler; three-quarters of a mile to a very beautiful river. A bargain that must be seen to be appreciated. Bridgewater, Conn.

6 acres **$2,000**

This is a good paying country hotel that is growing more popular each year. The house is 2-story and contains twenty rooms. Fine dance hall. Six

Connecticut Lands for Sale

acres of rich land, where all garden truck and vegetables can be raised. Located only 5 miles from the city of Willimantic. Two and a half miles from depot and a few steps to postoffice, stores, churches, etc. In a very pleasant location, shaded by elm and maple trees. There is a good stable 30x40; five horses are kept busy most of the time. Price, only $2,000; $1,200 down. Andover, Conn.

103 acres $1,600

Located two miles from depot, near neighbors, one mile to store and school; mail delivered. Forty acres in fields, forty in pasture and twenty-three in wood; milk sold at the door; two hundred fruit trees; five hundred barrels of apples in season. Nine-room house, painted and blinded; barn 40x60; tie-up for twenty head; cellar under barn; wood house and shop; good shade trees. Buildings insured for $1,400. Owner has other business and must dispose of this property. He will include horse, wagons, farming tools, hay, two cows, twenty hens and small tools and utensils. Must be seen to be appreciated. Price, only $1,600. Andover, Conn.

35 acres $2,500

Where can you find a prettier home, bordering on a beautiful river than this one of thirty-five acres? Nice old-fashioned two-story house of twelve rooms, in good repair, three fireplaces, painted; beautiful shade trees, excellent view, among the best of neighbors, one mile from the depot, on the main road; mail delivered; dark loamy soil; plenty of apples, pears, peaches, quinces, grapes, etc. Running water to both the house and barn from a never-failing spring on the farm; good size barn and hennery. An ideal country home and a splendid farm for a little money. Bridgewater, Conn.

150 acres $1,800

This is the old-style Colonial house, with twelve large rooms that you have been looking for. Has piazza, open fire-places, is painted and blinded, and supplied with good water. Surrounded with maple shade; good view; near neighbors, store, schools and churches, and only three and a half miles to station; barn 36x48, with tie-up for twelve head; cutting thirteen tons of hay; spring-watered pasture for fifteen head; 300 cords of wood; timber and fruit for home use. This farm has a south slope, and while well adapted for general purposes, would make a fine place for chickens or turkeys. One-half cash; balance at 5 per cent interest. Danielson, Conn.

200 acres $1,400

Four hundred cords of wood, 50,000 feet of pine and oak timber, with a good market near. Fruit for home use. Spring-watered pasture for nine head; cutting ten tons of hay from level fields; good strong black soil. Only one-half mile from village, store and postoffice, with neighbors near, and but four miles to depot; eight-room house, painted and supplied with the very best of water; clapboarded barn, 40x50; tie-up for thirty head; cellar. Never-failing water in barn. These buildings alone are valued at $2,000. Large chicken house, wagon house and ice house; good shade; fine view, with best trout brook in town crossing farm. This is in a good neighborhood, and for the price is considered the best trade in this section. It is not often that at this price such buildings can be secured. Bridgewater, Conn.

135 acres $2,100

Fine old-fashioned one and one-half-story house of six rooms, with gable roof. Less than ten minutes' walk from the prettiest village you ever saw, which has store, school, churches, etc. About three minutes' walk across lots back of the house is a large trout brook, which runs through the place for one-half mile; mail is delivered; butcher and grocer call at the door; one hundred and thirty-five acres of fields, wood and pasture land; plenty of timber and wood; two large barns, tie-up sixteen head of cattle, besides horse barn with three stalls; large tool sheds, chicken house and pig house. This is a very productive farm and an ideal home. It is worth double the price asked. Present owner is nearly one hundred years old and cannot work it, which is the only reason the price is so ridiculously low. Litchfield, Conn.

50 acres $1,700

Fifty-acre farm, plenty of wood, pasture and grass; twelve-room house, in good repair, situated in a picturesque nook two and one-half miles from one of the prettiest New England villages in the state; store, school, churches, etc. Mail delivered; plenty of maples about the house; apples, crab apples, grapes currants for home use; fine well of water at the door; cuts fifteen tons of hay; barn 32x40, tie-up seven head of cattle. There is also a horse barn, wagon house, chicken house, pig pen, etc. Hen house will accommodate about two hundred fowls. Make a good chicken farm, as there is a fine local market for chickens, either dressed or alive. Ready to move right in and is dirt cheap, because death has removed the former owner and it has come into the hands of those who cannot use it. This is a leader and will soon be sold. Come and see it. Litchfield, Conn.

19 acres $1,300

One and one-quarter miles out of one of the most beautiful villages in the State of Connecticut, where there are stores, school, creamery, post-office, high school, two large summer hotels, churches, etc. Soil of the best; wood for home use; quite a quantity of fruit; beautiful shade trees; in a good neighborhood; nice old-fashioned one and one-half story house, with a nice well of water at the door, pleasantly located. There is a good-sized barn, hennery and hog house. Must be sold at once to settle an estate. $500 can remain on mortgage. Bridgewater, Conn.

MANY SMALL FARMS ARE OFFERED IN CONNECTICUT.

At Prices Less than it Would Cost to Erect the Buildings. To be directed to agents of these properties, write to the Secretary of State at the Capital of the State.

100 acres $2400

40 acres in fields, 40 in pasture and 20 in wood. 2 miles from depot; near neighbors; ½ mile to school; cuts 30 tons of hay; milk sold at door; pasture for 15 head; 200 cords of wood; 50 apple and pear trees; 100 bbls. of apples in season. Currants, cherries, blackberries, huckleberries, 7-room house, painted; pure well water; barn 30x40; tie-up for 20 head; horse barn, cattle shed, wagon house, wood house, and 100 feet of hen houses. Nice maple shade. Magnificent view from house. Borders the water for ½ mile. Owner, on account of old age, is anxious to dispose of this property, and as an inducement for a quick sale will include with the place 5 cows, 1 horse, 100 fowls, hay, grain, corn, 5 plows, 3 wagons, 2 sleds, 1 sleigh, chains, forks, 2 cultivators, 2 harrows, weeder, mowing machine, horse rake, grindstone, small tools, 10 cords of wood cut for stoves. It's one of our best bargains, and worth looking at. Price only $2,400. Andover, Conn.

50 acres $1500

20 acres in fields, 20 in pasture and 10 in wood. 20 rods from school and neighbors; 3 miles from depot; mail delivered. Only 8 miles from city of Willimantic. Cuts 20 tons of hay. Sweet hill pasture for 9 head of cattle. 25 apple trees. 2-story house of 9 rooms, with fire-places; barn 30x40; tie-up for 10 head, supplied with running water; wood house and shop and wagon house. Fine maple shade. Good view from the house. This farm is in an extra good location, and borders the water for ½ mile. The present owner cannot take care of the place and must sacrifice for $1,500. It's one of our leaders for the year. Andover, Conn.

1-2 acre $700

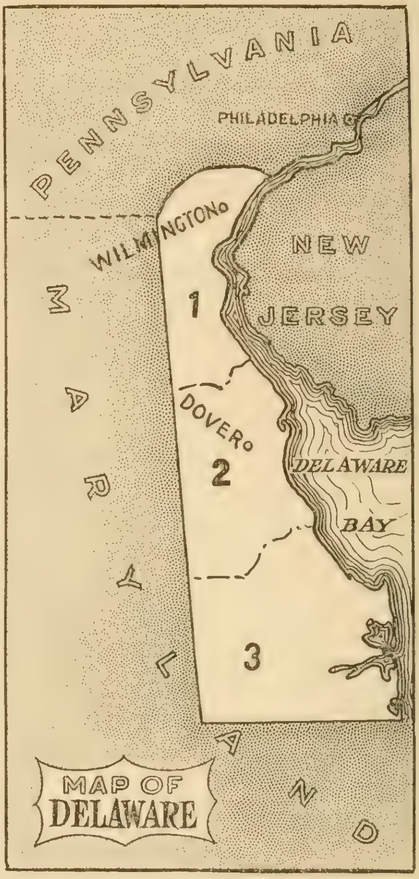
A beautiful summer home. Located in a country village at an altitude of over 1,200 feet. Good house, well painted and blinded, and containing 9 rooms and 2 halls; church, store, postoffice, and school close at hand. 2 stages daily between village and station, thus making it very easy of access. Good barn with 3 stables: plenty of pasture to be had near by for a cow; a fine apple orchard with the place. This is an ideal spot for a summer home as the village is situated on an elevated plateau with fine level drives in all directions. The laurels here are worth a journey to see in the beautiful month of June. Best of all the price is only $700. Plainville, Conn.

STATE AND THE 3 COUNTIES OF DELAWARE

With Their Boundaries

CITIES AND VILLAGES OF DELAWARE.

Towns	Loca.	Pop.
B		
Beaver Valley	1	287
Bellevue	1	250
Bethel	3	370
Blades	3	500
Bowers	2	212
Bridgeville	3	937
C		
Camden	2	553
Centerville	1	200
Cheswold	2	223
Christiana	1	400
Clayton	2	764
Concord	3	300
Cypress	3	500
D		
Delaware City	1	1,132
Delmar	3	530
*Dover (Capital)	2	3,270
E		
Edgemoor	1	497
Ellendale	3	216
F		
Farmington	2	255
Farnhurst	1	328
Faulkland	1	244
Felton	2	451
Frankford	3	395
Frederica	2	659
G		
*Georgetown	3	1,609
Greenwood	3	362
H		
Harrington	2	1,500
Henry Clay Factory	1	851
Hickman	2	300
Hockessin	1	406
Hollyoak	1	219
K		
Kenton	2	209
L		
Laurel	3	216
Lewes	3	2,158
Lincoln	3	347
Little Creek	2	235
M		
Magnolia	2	210
Marshallton	1	424
Middletown	1	1,399
Milford	3	2,603
Millsboro	3	451
Milton	3	1,038
N		
Newark	1	1,913
Newcastle	1	3,351
Newport	1	722
O		
Ocean View	3	302
Odessa	1	585
P		
Port Penn	1	299
R		
Rehoboth	3	327
Risingsun	2	257
Rockland	1	392
S		
St. George	1	264
Seaford	3	2,108
Selbyville	3	342
Smyrna	2	1,813
Stanton	1	291
T		
Taylors Bridge	1	243
Townsend	1	494
W		
Wilmington	1	87,411
Winterthur	1	206
Woodland	3	201
Woodside	2	300
Wyoming	2	517
Y		
Yorklyn	1	328



DELAWARE COUNTIES.

Loca.	County	Pop.
1	Newcastle	723,188
2	Kent	32,721
3	Sussex	46,413
	Total	202,322

DELAWARE

Delaware seems to be a small state, and in comparison with the area of the others it is, but when it is placed by the side of Rhode Island it is seen to be almost twice the size of little Rody. To illustrate, each state is 35 miles wide, but when we come to measure length we find that Delaware is 110 miles long, while Rhode Island is only 50 miles.

ORIGIN OF THIS LITTLE STATE.

How this little state, with three counties, comes to nestle down between Delaware Bay and Maryland is understood when history gives the explanation.

Henry Hudson entered and sailed up the bay in 1609. On the following year, 1610, Lord De la Ware, an early colonial governor of Virginia, made a voyage up the bay. From his exploration the bay was named Delaware Bay and this became the name of the small tract of land on the west side of this body of water.

At that period the Indians, who occupied the northern part of the land, were known as the Pinquas, while those on the south were the Nanticokes.

ACTIVITIES OF THE SWEDES AND DUTCH.

In 1631-2 the Dutch planted a small colony near Cape Henlopen, but the Indians drove them out three years later. In 1638 a **colony of Swedes** and Finlanders bought land and built a fort on Christiana Creek, New Castle county, near present city of Wilmington, named the country New Sweden, and a little later put up a fort on the island of Tinucum, a **few miles** south of Philadelphia. This was considered by the Dutch of New Amsterdam **an invasion** of their territory and they set up Fort Casimer, near the site of the present New Castle, in New Castle county, only five miles from the Swedish fort. **A settlement on** the Delaware River, made in 1641, by a colony from New Haven, Connecticut, was broken

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

up by them, causing great **financial disaster.** The Swedes took Fort Casimer in 1654, but the next year the Dutch seized the **whole country** and sent to England all the colonists who refused allegiance to Holland.

WHEN THE ENGLISH GOT CONTROL.

When New York came under the English government, in 1664, the Delaware settlements were claimed for the Duke of York, and also by Lord Baltimore for Maryland, but William Penn, soon after he settled Pennsylvania, **purchased the Duke's right,** and effected a compromise with Baltimore so as to add the Delaware settlements to Pennsylvania, and for 20 years they were governed as a part of Pennsylvania, under the name of the "territories" or **three counties on the Delaware,** each county sending six representatives to the general assembly.

In 1703 Delaware set up for herself, so far as to establish a separate legislature, but the rule of the Pennsylvania governor was conceded on the ground of proprietary rights, until **the period** of the revolution, when the state became independent.

VERY LITTLE TROUBLE WITH THE INDIANS.

With the exception of some slight contests, first with the Indians in 1632, and subsequently, disagreements among the Swedes, Dutch and English, the settlers on this tract of land, comprising the three counties, have always been singularly **free from warfare** with the Indians and others.

While the men of Delaware enlisted with the English in the French war, the little state of Delaware gave 3,763 troops to Washington in the war of the revolution, and 13,670 soldiers to aid in **putting down** the rebellion in 1866.

THE AVERAGE SIZE OF FARMS.

The land seeker, in going into Delaware, will find the average size of the farms to be about 113 acres, and farm land generally valued at about $36 per acre.

Sussex county has the reputation of raising the **greatest number of strawberries** of any county in the world.

With an average temperature of 33 for January, July 73, with 93 the highest, with the thermometer never showing below zero, with an average rainfall of 33 inches, and a very fertile soil, these counties are giving a large annual output of corn, oats, peaches, apples, berries and small fruits raised for the Philadelphia markets. **Grapes, melons, corn and amber wheat** with oats, sorghum and dairy products complete the list of Delaware's chief agricultural supplies.

In Kent county great quantities of tomatoes are grown for canning. In this county lie some 180,000 acres of **rich alluvial land.** For a distance of **ten miles** from the bay the soil is very fertile and the well-kept estates with their **vineyards and orchards** present a fine picture of prosperous peace.

GO OUT TO DELAWARE AND LOOK.

It will be well for people who seek country life and wish to engage in fruit raising to investigate the State of Delaware, in which they will find **55,000 acres** devoted alone to peach growing.

But it will not be fruit growing only that the land-seeker will have to occupy his attention after going into this state. **The fisheries** here employ over 2,000 persons. There are more than 3,000 acres of **oyster beds,** the products from which give an annual yield of over $1,000,000..

Clays and Kaolins abound and are worked up at Wilmington into terracotta bricks and crockery. In this industry near 1,000 men are continually employed.

MATERIAL FOR MAKING ARTIFICIAL TEETH.

Near Wilmington is quarried the fine spar employed in the manufacture of artificial teeth.

The iron and steel works of Wilmington employ thousands of men, the output yielding many millions of dollars annually

Other industries at Wilmington are the manufacture of cotton goods, pulps, paper and leather goods. **The great** Edge Moor Bridge Works are also near Wilmington on the Delaware River. At Dover, **fruit canning** is an important industry.

There are no mountains in the state, but in the extreme north it is hilly, and from the Christiana River a low wooded ridge extends southward near the west boundary; elsewhere the surface is uniformly level and generally sandy.

CONDENSED FACTS RELATING TO DELAWARE.

Altitude. This state has only a few elevations, some few hills in the northern part of the state in New Castle county, reaching to a height of 282 feet.

Climate. Average temperature, January 33; July 73; highest 93; lowest 1 above; rainfall 32.6. Average temperature throughout the year at Delaware City, New Castle county, is 54,69.

Dimensions. Length of state 110 miles. Breadth 35 miles.

History. Delaware Bay and Delaware River explored by Lord De la Ware in 1610. The bay had been entered the year before by Henry Hudson. First settlement made by Swedes near Cape Henlopen. See general description of Delaware elsewhere in this chapter.

FARMS IN SOUTHERN DELAWARE OFFERED FOR SALE.

To give the reader information as to what small farms are offered for in Delaware, we clip these items from an advertising circular.

25 acres $1,500

Farm in a high state of cultivation, and a very attractive set of buildings, located only 3 miles from large village and railroad station; 1 mile from stores, school, etc.; land is all in smooth, level fields cutting 2 tons of hay to the acre, with the exception of a large strawberry patch and an orchard of peach and pear trees. Several acres more should be set to strawberries and the balance of the farm devoted to raising vegetables. The house is 2-story, with 8 rooms, built 3 years ago at a cost of $1,100. The barn is also new; poultry house and carriage house. Price only $1,500. Bridgeville, Delaware.

140 acres $2,500

Located only 3 miles from one of the largest fruit shipping centres in the State. There are 90 acres in fields, and the balance in pasture and wood; estimated to be 2,500 cords, and a large amount of pine timber. There are 50 apple trees, and some pears, peaches and plums. 1 mile from stores; ½ mile from school; near neighbors; good 2-story house, 9 rooms, supplied with water by wells; barn 24x28; stable 20x24; also poultry houses, carriage house and smoke house. The present occupant has made a specialty of raising melons and garden truck. The local markets are exceptionally good. Price only $2,500; ½ down. Bridgeville, Delaware.

180 acres $2,000

Half of this farm is in fields of light loam soil, and the remainder is in wood and timber. It is estimated that there are 150,000 feet of pine and 150,000 feet of oak; 350 peach trees just coming in bearing; 50 large apple trees. The peach trees should yield 500 baskets a year the coming year, and the apple trees fully 200. 2-story houses, 6 rooms, 2 piazzas; barn 20x60; water supplied from driven well; large maple trees furnish shade, and the surroundings are very attractive. Owner has other business and must sell. To any man who will go and examine this farm we will prove that he can pay for it in 2 years by growing small fruit and vegetables.

130 acres $3,000

The tillage land on this farm is cutting 2 tons of hay per acre. There is a nicely watered pasture for 20 cows; 30 acres are in wood, of which there is estimated to be 1,000 cords; fine orchard; 1,000 peach, apple and pear trees, 10 years old; 2-story house, 6 rooms; barns to accommodate stock and store corn, hay, etc., maple shade about buildings; in a good neighborhood; near school; mail delivered; 1½ miles from village and depot. This whole farm should be set out to fruit. Only $3,000; ½ cash. Bridgeville, Delaware.

86 acres $4,300

Five acres of this farm are set to thrifty strawberry plants; 2 acres in blackberries; 500 Kieffer pears, four years old, and 250 apple trees; also abundance of peaches. The fruit is already bringing in a good yearly income and within a few years should amount to $2,000 or $3,000. Located within 1 mile from village; near neighbors; mail delivered; 2-story house, 8 rooms; supplied with water from driven well; barn 20x35; small house for help; poultry house and smoke house; maple trees shade the lawn and the land borders on stream. Price only $4,300; one-third cash, balance on mortgage. Bridgeville, Delaware.

Distances from 5 Principal Cities to Other Important Cities

From Baltimore, Md., to	Miles.
Albany, N. Y.	337
Alexandria, Va.	49
Atlanta, Ga.	867
Augusta, Ga	695
Augusta, Me.	558
Bangor, Me.	633
Bloomington, Ill.	781
Boston, Mass.	395
Buffalo, N. Y.	421
Burlington, Ia.	1,060
Cairo, Ill.	937
Charleston, S. C.	586
Chester, Pa.	81
Cheyenne, Wyo.	1,869
Chicago, Ill.	853
Cincinnati, O.	560
Cleveland, O.	482
Columbus, O.	512
Cumberland, Md.	191
Davenport, Ia.	1,036
Denver, Colo.	1,965
Des Moines, Ia.	1,209
Detroit, Mich.	568
Duluth, Minn.	1,499
Elmira, N. Y.	255
Erie, Pa.	401
Fargo, N. D.	1,598
Ft. Wayne, Ind.	705
Frankfort, Ky.	718
Frederick, Md.	6
Green Bay, Wis.	1,095
Harper's Ferry, Va.	95
Harrisburg, Pa.	84
Hartford, Conn.	298
Huntsville, Ala.	760
Indianapolis, Ind.	700
Iowa City, Ia.	1,090
Jackson, Mich.	645
Janesville, Wis.	944
Kansas City, Mo.	1,342
Keokuk, Ia.	1,103
La Crosse, Wis.	1,133
Leadville, Colo.	2,138
Leavenworth, Kan.	1,239
Lincoln, Neb.	1,405
Los Angeles, Cal.	3,781
Louisville, Ky.	697
Lynchburg, Va.	217
Lyons, Ia.	990
Madison, Wis.	990
Mansfield, O.	556
Milwaukee, Wis.	938
Milledgeville, Ga.	769
Montgomery, Ala.	998
Montpelier, Vt.	625
Nashville, Tenn.	829
New Orleans, La.	1,316
New York, N. Y.	188
Niagara Falls, N. Y.	431
Ogden, Utah	2,382
Omaha, Neb.	1,350
Penn Yan, N. Y.	200
Philadelphia, Pa.	96
Pittsburgh, Pa.	340
Portland, Ore.	3,906
Portland, Me.	495
Quebec, Can.	759
Quincy, Ill.	1,350
Racine, Wis.	915
Richmond, Va.	170
Rochester, N. Y.	354
Sacramento, Cal.	3,067
St. Paul, Minn.	1,263
Salt Lake City, Utah	2,419
San Francisco, Cal.	3,206
Savannah, Ga.	690
Sitka, Alaska	4,739
Springfield, Mass.	326
Tallahassee, Fla.	1,060
Toledo, O.	610
Topeka, Kan.	1,269
Troy, N. Y.	231
Washington, D.C.	39
Wheeling, W.Va.	398
Wilmington, Del.	69
Winnipeg, Man.	1,698
Winona, Minn.	1,159
Yankton, S. D.	1,456
Zanesville, O.	468

From Boston, Mass., to	Miles.
Albany, N. Y.	183
Amherst, Mass.	81
Andover, Mass.	22
Annapolis, Md.	451
Augusta, Me.	177
Baltimore, Md.	395
Barnstable, Mass.	73
Bangor, Me.	244
Braintree, Mass.	11
Buffalo, N. Y.	478
Brighton, Mass.	4
Burlington, Ia.	1,225
Cairo, Ill.	1,385
Charleston, S.C.	1,109
Chatham, Mass.	177
Chicago, Ill.	1,020
Cincinnati, O.	991
Cleveland, O.	663
Columbia, S.C.	974
Columbus, O.	871
Concord, N. H.	75
Denver, Colo.	2,033
Des Moines, Ia.	1,377
Detroit, Mich.	736
Dover, Del.	399
Dover, N. H.	69
Duluth, Minn.	1,666
Erie, Pa.	566
Fall River, Mass.	49
Fargo, N. D.	1,765
Fitchburg, Mass.	49
Helena, Mont.	3,025
Indianapolis, Ind.	1,059
Jackson. Mich.	810
Jackson, Miss.	1,551
Kinderhook, N. Y.	184
La Crosse, Wis.	1,298
Lansing, Mich.	775
Leadville, Col.	2,305
Lincoln, Neb.	1,572
Louisville, Ky.	1,119
Lowell, Mass.	26
Marshfield, Mass.	34
Madison, Wis.	1,158
Mansfield, Mass.	24
Mattapan, Mass.	7
Memphis, Tenn.	1,476
Milwaukee, Wis.	1,009
Minneapolis, Minn.	1,438
Mobile, Ala.	1,606
Montpelier, Vt.	202
Muscatine, Ia.	1,038
Nebraska City, Neb.	1,516
Nashville, Tenn.	1,251
New Bedford, Mass.	55
Newburyport, Mass.	35
New Haven, Conn.	160
New Orleans, La.	1,735
Newport, R. I.	68
New York, N. Y.	207
Niagara Falls, N. Y.	506
Ogden, Utah	2,547
Omaha, Neb.	1,517
Pittsfield, Mass.	150
Plymouth, Mass.	48
Portland, Me.	107
Portland, Ore.	4,073
Providence, R. I.	44
Quincy, Mass.	8
Racine, Wis.	1,080
Raleigh, N. C.	775
Richmond, Va.	591
Rochester, N. Y.	429
Saco, Me.	93
St. Louis, Mo.	1,320
St. Paul, Minn.	1,430
Salem, Mass.	15
San Francisco, Cal.	3,430
Sarnia, Ont.	819
Savannah, Ga.	1,112
Springfield, Ill.	1,270
Springfield, Mass.	98
Taunton, Mass.	35
Toledo, O.	775
Washington, D. C.	432
Wheeling, W. Va.	774
Wilmington, Del.	351
Winnipeg, Man.	1,865
Worcester, Mass.	44
Yankton, S. D.	1,623

From Chicago, Ill., to	Miles.
Albany, N. Y.	837
Albuquerque, N. M.	1,391
Jefferson City, Mo.	489
Annapolis, Md.	833
Atchison, Kan.	556
Atlanta, Ga.	795
Aurora, Ill.	38
Austin, Tex.	987
Baltimore, Md.	853
Bangor, Me.	1,263
Boston, Mass.	1,020
Buffalo, N. Y.	542
Burlington, Vt.	1,182
Cairo, Ill.	365
Charleston, S. C.	1,103
Cheyenne, Wyo.	1,017
Cincinnati, O.	293
Cleveland, O.	357
Columbia, S. C.	837
Columbus, O.	314
Concord, N. H.	1,083
Denver, Col.	1,113
Des Moines, Ia.	357
Decatur, Ill.	173
Detroit, Mich.	280
Dubuque, Ia.	188
Duluth, Minn.	565
Elgin, Ill.	36
El Paso, Tex.	1,630
Fargo, S. D.	745
Ft. Worth, Tex.	1,023
Galva, Ill.	140
Galveston, Tex.	1,150
Geneva Lake, Wis.	85
Gettysburg, Pa.	771
Green Bay, Wis.	242
Hannibal, Mo.	329
Harrisburg, Pa.	716
Hartford, Conn.	1,011
Helena, Mont.	2,007
Hot Springs, Ark.	693
Houston, Tex.	1,099
Indianapolis, Ind.	193
Iowa City, Iowa	237
Jackson, Miss.	708
Jacksonville, Fla.	1,248
Janesville. Wis.	91
Kansas City, Mo.	489
La Crosse. Wis.	280
Lansing, Mich.	245
Leadville, Colo.	1,284
Leavenworth, Kan.	589
Madison, Wis.	138
Marquette, Mich.	390
Milwaukee. Wis.	85
Minneapolis, Minn.	420
Mobile, Ala.	845
Montreal, Can.	844
Nashville. Tenn.	482
New Haven, Conn.	915
New Orleans, La.	915
Nome, Alaska	5,126
New York, N. Y.	912
Niagara Falls, N. Y.	513
Oil City, Pa.	600
Omaha, Neb.	497
Panama, C. A.	2,311
Phoenix, Ariz.	1,971
Philadelphia, Pa.	823
Portland, Me.	1,128
Quebec, Can.	1,116
Racine, Wis.	62
Richmond, Va.	933
Seattle, Wash.	2,226
Skagway, Alaska	3,226
Salt Lake City, Utah	1,566
San Francisco, Cal.	2,411
St. Paul, Minn.	410
Tallahassee, Fla.	1,339
Toronto, Can.	515
Utica, N. Y.	745
Vicksburg, Miss.	753
Washington, D. C.	813
Wheeling, W. Va.	451
Winnipeg, Man.	845
Yankton, S. D.	603

From Cincinnati, Ohio, to	Miles.
Akron, O.	246
Albany, N. Y.	737
Alliance, O.	270
Altoona, Pa.	428
Annapolis, Md.	548
Athens, O.	159
Baltimore, Md.	560
Bellefontaine, O.	116
Bloomington, Ill.	307
Bloomington, Ind.	163
Boston, Mass.	961
Buffalo, N. Y.	444
Burlington, Ia.	447
Cairo, Ill.	399
Charleston, S. C.	918
Circleville, O.	104
Chicago, Ill.	293
Chillicothe, O.	99
Cleveland, O.	258
Columbia, S. C.	675
Columbus, Ind.	94
Columbus, O.	120
Concord, N. H.	1,018
Crestline, O.	183
Dayton, O.	66
Denver, Col.	1,255
Des Moines, Ia.	629
Detroit, Mich.	267
Dover, Del.	706
Dunkirk, N. Y.	401
Elgin, Ill.	329
Erie, Pa.	353
Evanston, Ill.	305
Evansville, Ind.	243
Fargo, N. D.	1,038
Ft. Wayne, Ind.	180
Frankfort, Ky.	118
Fremont, O.	175
Galion, O.	177
Hamilton, O.	20
Harrisburg, Pa.	561
Helena, Ark.	574
Indianapolis, Ind.	115
Iowa City, Ia.	530
Jackson, Miss.	676
Jeffersonville, Ind	136
Kankakee, Ill.	253
Kenton, O.	142
Keokuk, Iowa	540
Lafayette, Ind.	179
Lansing, Mich.	318
Lecompton, Kan.	800
Little Rock, Ark.	667
Logansport, Ind.	177
Long Branch, N. J.	777
Louisville, Ky.	137
Madison, Wis.	431
Mansfield, O.	184
Memphis, Tenn.	484
Milledgeville, Ga.	764
Montgomery, Ala.	756
Montpelier, Vt.	937
Muscatine, Iowa	513
Nashville, Tenn.	291
New Albany, Ind.	110
Newark, O.	153
New Orleans, La.	874
New York, N. Y.	744
Ogden, Utah	1,822
Omaha, Neb.	790
Peru, Ind.	176
Philadelphia, Pa.	667
Pittsburgh, Pa.	313
Portland, Me.	981
Portland, Ore.	2,099
Raleigh, N. C.	1,250
Richmond, Va.	638
Rock Island, Ill.	374
Salt Lake City, Utah	1,810
San Francisco, Cal.	2,655
Sandusky, O.	215
Savannah, Ga.	874
Seymour, Ind.	87
Springfield, Ill.	338
Springfield, O.	84
St. Louis, Mo.	340
St. Paul, Minn.	785
Terre Haute, Ind.	187
Toledo, O.	202
Urbana, O.	100
Vincennes, Ind.	192
Washington, D.C.	490
Wheeling, W. Va.	251
Wilmington, Del.	660
Wooster, O.	220

From Denver, Col., to	Miles.
Abilene, Kan.	476
Albany, N. Y.	1,930
Alton, Ill.	1,023
Arapahoe, Col.	186
Augusta, Me.	2,302
Baltimore, Md.	1,965
Bierstadt, Col.	78
Boston, Mass.	2,033
Buffalo, N. Y.	1,655
Burlington, Iowa	900
Burlington, Vt.	2,295
Cairo, Ill.	1,200
Canon City, Col.	161
Cameron, Col.	48
Cape May, N. J.	2,017
Castle Rock, Col.	33
Cheyenne, Kan.	106
Chicago, Ill.	1,113
Cincinnati, O.	1,255
Cleveland, O.	1,469
Colorado Springs, Col.	91
Concord, N. H.	2,196
Detroit, Mich.	1,397
Eagle Park, Col.	294
Erie, Pa.	1,565
Fort Harker, Kan.	420
Fort Riley, Kan.	503
Fort Wayne, Ind.	1,261
Greeley, Col.	52
Hamilton, Can.	1,585
Harrisburg, Pa.	1,829
Hartford, Conn.	2,124
Jackson, Mich.	1,321
Kansas City, Mo.	638
Lansing, Mich.	1,358
Lawrence, Kan.	600
Leadville, Col.	278
Long Branch, N. J.	2,014
Longmont, Col.	33
Louisville, Ky.	1,302
Madison, Wis.	1,418
Memphis, Tenn.	1,450
Mitchell, Col.	23
Montgomery, Ala.	1,898
Montreal, Can.	1,957
New Haven, Conn.	2,028
New Orleans, La.	1,638
New York, N. Y.	1,980
Niagara Falls, N. Y.	1,626
Ogden, Utah	509
Oil City, Pa.	1,713
Omaha, Neb.	569
Ottawa, Can.	1,899
Pensacola, Fla.	2,085
Philadelphia, Pa.	1,936
Pittsburg, Pa.	1,581
Portland, Me.	2,241
Pueblo, Col.	125
Quebec, Can.	2,229
Raleigh, N. C.	2,317
Red Cliff, Col.	300
Richmond, Va.	2,008
Rochester, N. Y.	1,663
Rock Island, Ill.	930
St. Louis, Mo.	1,000
Salt Lake City, Utah	655
Sandusky, O.	1,531
San Francisco, Cal.	1,499
Savannah, Ga.	2,245
Sidney, Col.	58
South Fork, Col.	297
Syracuse, N. Y.	1,805
Toledo, O.	1,356
Topeka, Kan.	571
Toronto, Can.	1,628
Washington, D. C.	1,926
West Point, N. Y.	2,024
Wheeling, W. Va.	1,590
Wilmington, Del.	1,999

Distances from 5 Principal Cities to Other Important Cities

From New Orleans, La., to	Miles.
Albany, N. Y.	1,644
Alton, Ill.	658
Appleton, Wis.	1,104
Atchison, Kan.	1,055
Atlanta, Ga.	1,223
Augusta, Me.	2,140
Baltimore, Md.	1,316
Bangor, Me.	1,979
Baton Rouge, La.	129
Boston, Mass.	1,735
Bismarck, D. T.	1,825
Buffalo, N. Y.	1,454
Burlington, Ia.	1,122
Burlington, Vt.	1,805
Cairo, Ill.	550
Canton, Miss.	206
Cape May, N. J.	1,482
Carondelet, Mo.	719
Centralia, Ill.	663
Champaign, Ill.	787
Cheyenne, Wyo.	1,932
Chicago, Ill.	915
Cincinnati, O.	874
Concord, N. H.	1,799
Davenport, Ia.	1,069
Denver, Col.	1,638
Des Moines, Ia.	1,221
Detroit, Mich.	1,289
Dover, N. H.	1,799
Dubuque, Ia	1,008
Duquoin, Ill	627
Evanston, Ill	927
Enterprise, Miss.	146
Fargo, N. D.	1,628
Galveston, Tex.	290
Green Bay, Wis.	1,111
Grenada, Miss.	294
Hannibal, Mo.	870
Harrisburg, Pa.	1,435
Hartford, Conn.	1,612
Helena, Ark.	276
Houston, Tex.	361
Indianapolis, Ind.	862
Jackson, Miss.	367
Jackson, Tenn.	442
Jacksonville, Ill.	816
Joliet, Ill.	878
Kankakee, Ill.	859
La Crosse, Wis.	1,195
Lansing, Mich.	1,192
Lincoln, Neb.	1,467
Louisville, Ky.	754
Mattoon, Ill.	743
Memphis, Tenn.	376
Menasha, Wis.	1,100
Menominee, Mich.	1,185
Meridian, Miss.	191
Milwaukee, Wis.	998
Mobile, Ala.	140
Montpelier, Vt.	2,282
Nashville, Tenn.	348
New Haven, Conn.	1,575
New York, N. Y.	1,501
Ogden, Utah.	2,409
Omaha, Neb.	1,136
Philadelphia, Pa.	1,412
Pittsburgh, Pa.	1,378
Ponchatoula, La.	48
Portland, Me.	1,842
Portland, Ore.	3,264
Providence, R. I.	1,689
Racine, Wis.	977
Richmond, Va.	1,143
Sacramento, Cal.	2,625
St. Louis, Mo.	725
St. Paul, Minn.	1,352
Salt Lake City, Utah	2,481
San Francisco, Cal.	2,425
Springfield, Ill.	820
Springfield. Mo.	962
Toronto, Can.	1,430
Vicksburg, Miss.	235
Vinita, I. T.	1,086
Washington, D. C.	960
Wilmington, Del.	1,034
Winnipeg, Man.	1,760
Wyandotte, Kan.	1,011
Yankton, Dak.	1,851

From New York to	Miles.
Adrian, Mich.	747
Albany, N. Y.	143
Allegheny, Pa.	432
Alton, Ill.	1,053
Ann Arbor, Mich.	716
Atchison, Kan.	1,360
Atlanta, Ga.	952
Augusta, Ga.	837
Aurora, Ill.	938
Akron, O.	610
Baltimore, Md.	188
Bangor, Me.	478
Belfast, Me.	424
Bloomington, Ill.	984
Boston, Mass.	207
Buffalo. N. Y.	423
Burlington, Ia.	1,106
Burlington, Vt.	304
Charleston, S. C.	817
Chicago, Ill.	912
Cincinnati, O.	744
Cleveland, O.	580
Columbia, S. C.	749
Columbus, O.	624
Concord, N. H.	298
Covington, Ky.	745
Cumberland, Md.	366
Davenport, Ia.	1,082
Dayton, O.	694
Denver, Colo.	1,980
Des Moines, Ia.	1,256
Detroit, Mich.	628
Dover, N. H.	297
Dubuque, Ia.	1,087
Elmira, N. Y.	274
Erie, Pa.	486
Evansville. Ind.	993
Ft. Wayne, Ind.	751
Galena, Ill.	1,070
Galveston, Tex.	1,900
Gettysburg, Pa.	228
Harrisburg, Pa.	182
Hartford, Conn.	110
Indianapolis, Ind.	812
Jackson, Miss.	1,319
Kalamazoo, Mich.	772
Knoxville, Tenn.	740
Lansing, Mich.	725
Lexington, Ky.	844
Little Rock, Ark.	1,430
Louisville, Ky.	852
Lowell, Mass.	256
Lynchburg, Va.	406
Macon, Ga.	1,055
Madison, Wis.	998
Memphis, Tenn.	1,159
Meriden, Conn.	92
Milledgeville, Ga.	990
Milwaukee, Wis.	902
Mobile, Ala.	1,332
Montpelier, Vt.	344
Nashville, Tenn.	1,001
New Albany, Ind.	853
New Haven, Conn.	76
New Orleans, La.	1,501
Newport, R. I.	162
Ogden, Utah.	2,441
Omaha, Neb.	1,396
Paterson, N. J.	16
Peoria, Ill.	995
Petersburg, Va.	383
Philadelphia, Pa.	88
Pittsburgh, Pa.	431
Portland, Me.	341
Portland, Ore.	3,965
Providence, R. I.	188
Quincy, Ill.	1,162
Raleigh, N. C.	537
Richmond, Va.	358
Rock Island, Ill.	1,081
St. Joseph. Mo.	1,337
St. Louis, Mo.	1,084
St. Paul, Minn.	1,390
Salt Lake City, Utah	2,465
San Francisco, Cal.	3,310
Savannah, Ga.	877
Springfield, Ill.	1,035
Tallahassee, Fla.	1,190
Toledo, O.	694
Washington, D. C.	230
Wilmington, N. C.	666
Zanesville, O.	610

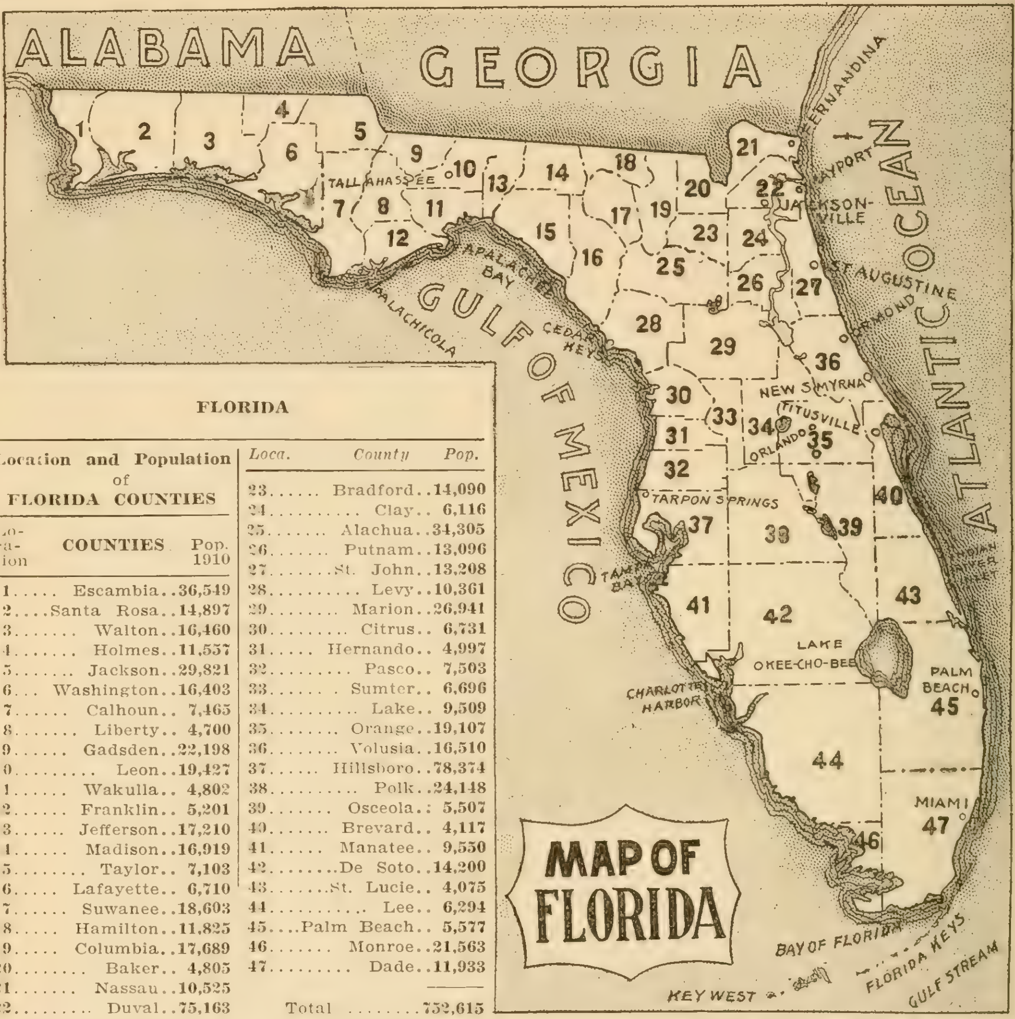
Philadelphia, Pa., to	Miles.
Albany, N. Y.	231
Alliance, O.	436
Alton, Ill.	989
Annapolis, Md.	131
Atlanta, Ga.	930
Augusta, Me.	491
Baltimore, Md.	96
Bellefontaine, O.	608
Bloomington, Ill.	949
Boston, Mass.	318
Buffalo, N. Y.	510
Burlington, Ia.	1,030
Catawissa, Pa.	145
Cairo, Ill.	1,053
Carlisle, Pa.	126
Charleston, S. C.	786
Cheyenne, Wyo.	1,838
Chicago, Ill.	823
Cincinnati, O.	667
Clayton, Del.	65
Cleveland, O.	505
Columbia, S. C.	651
Columbus, O.	548
Concord, N. H.	397
Corry, Pa.	410
Crestline, O.	544
Davenport, Ia.	1,006
Dayton, O.	619
Decatur, Ill.	936
Denver, Colo.	1,936
Des Moines, Ia.	1,180
Detroit, Mich.	539
Dover, Del.	76
Dover, N. H.	385
Duluth, Minn.	1,469
Elmira, N. Y.	283
Evansville, Ind.	911
Fargo, N. D.	1,568
Forest, O.	585
Fort Wayne, Ind.	675
Galena, Ill.	995
Gettysburg, Pa.	135
Green Bay, Wis.	1,034
Hartford, Conn.	198
Helena,, Mont.	2,830
Huntsville, Ala.	1,135
Jackson, Miss.	1,461
Joliet, Ill.	863
Kansas City, Mo.	1,277
Lafayette, Ind.	784
Lansing, Mich.	728
Leavenworth, Kan.	1,303
Lebanon, Pa.	86
Louisville, Ky.	776
Madison, Ky.	764
Madison, Wis.	1,004
Mattoon, Ill.	864
Memphis, Tenn.	1,153
Milwaukee, Wis.	908
Mobile, Ala.	1,500
Montpelier, Vt.	528
Nashville, Tenn.	928
Newark, N. J.	79
New Orleans, La.	1,412
Newport, R. I.	250
New York, N. Y.	88
Niagara Falls, N. Y.	458
Ogden, Utah	2,352
Oil City, Pa.	444
Piqua, O.	621
Pittsburgh, Pa.	355
Portland, Me.	398
Portland, Ore.	3,870
Quincy, Ill.	1,057
Richmond, Ind.	667
Richmond, Va.	268
Rock Island, Ill.	1,005
Sacramento, Cal.	2,992
Salt Lake City, Utah	2,374
Sandusky, O.	566
San Francisco, Cal.	3,224
Scranton, Pa.	161
Springfield, Ill.	946
Springfield, O.	591
St. Louis, Mo.	1,008
St. Paul, Minn.	1,137
Terre Haute, Ind.	809
Toledo, O.	518
Washington, D. C.	138
Wheeling, W. Va.	451
Xenia, O.	603

From St. Louis, Mo., to	Miles.
Albany, N. Y.	1,123
Alton (Upper)	23
Annapolis, Md.	940
Atchison, Kan.	330
Atlanta, Ga.	536
Atlantic City, N. J.	1,067
Baltimore, Md.	959
Beardstown, Ill.	112
Belleville, Ill.	14
Bloomington, Ill.	156
Boonville, Mo.	232
Boston, Mass.	1,320
Cairo, Ill.	146
Carlinville, Ill.	57
Canton, Miss.	486
Cape May, N. J.	1,089
Carondelet, Mo.	6
Charleston, S. C.	959
Cheyenne, Wyo.	1,022
Chicago, Ill.	280
Cincinnati, O.	340
Columbia, S. C.	1,247
Columbus, Ky.	166
Concord, N. H.	1,392
Corinth, Miss.	309
Davenport, Ia.	344
Denver, Colo.	1,000
Detroit, Mich.	564
Dover, Del.	1,046
Dubuque, Iowa.	468
Du Quoin, Ill.	71
Elgin, Ill.	316
Evanston, Ill.	292
Fargo, D. T.	1,145
Grenada, Miss.	398
Hannibal, Mo.	145
Hermann, Mo.	81
Indianapolis, Ind.	262
Jacksonville, Ill.	91
Jackson, Miss.	698
Jackson, Tenn.	252
Jefferson Barracks, Mo.	10
Kansas City, Mo.	222
Kenosha, Wis.	381
Kokomo, Ind.	269
Leadville, Col.	1,132
Lansing, Mich.	504
Lecompton, Kan.	347
Lexington, Mo.	470
Little Rock, Ark.	590
Louisville, Ky.	275
Madison, Wis.	418
Memphis, Tenn.	316
Meridian, Miss.	503
Mexico, Mo.	108
Milwaukee, Wis.	365
Mobile, Ala.	638
Moline, Ill.	233
Montgomery, Ala.	895
Montpelier, Vt.	1,557
Nashville, Tenn.	348
New Orleans, La.	725
New York, N. Y.	1,084
Ogden, Utah	1,482
Omaha, Neb.	496
Oswego, Kan.	363
Philadelphia, Pa.	1,088
Pilot Knob, Mo.	87
Pittsburgh, Pa.	652
Portland, Me.	1,492
Racine, Wis.	342
Raleigh, N. C.	1,317
Richmond, Va.	1,008
Rock Island, Ill.	230
St. Joseph, Mo.	305
St. Paul, Minn.	690
Salt Lake City, Utah	1,500
San Francisco, Cal.	2,030
Savannah, Ga.	1,245
Sedalia, Mo.	189
Springfield, Ill.	95
Springfield, Mo.	200
Sterling, Ill.	282
Toledo, O.	450
Vinita, Ind. T.	363
Washington, D. C.	951
Weston, Mo.	310
Wheeling, W. Va.	590
Wilmington, Del.	999
Wyandotte, Kan	286

From Washington, D. C., to	Miles.
Albany, N. Y.	370
Amherst, Mass.	619
Andover, Mass.	739
Annapolis, Md.	40
Alexandria, Va.	7
Atlanta, Ga.	792
Augusta, Me.	633
Aurora, Ill.	851
Baltimore, Md.	39
Bangor, Me.	708
Bellaire, O.	349
Bladenburgh, Md.	6
Boston, Mass.	432
Burlington, Vt.	534
Cairo, Ill.	1,091
Cambridge, Mass.	433
Cambridge, O.	402
Cape May, N. J.	260
Charleston, S. C.	455
Cheyenne, Wyo.	1,830
Chicago, Ill.	813
Cincinnati, O.	497
Columbia, S. C.	500
Columbus, O.	350
Concord, N. H.	630
Cumberland, Md.	152
Davenport, Iowa.	996
Defiance, O.	630
Denver, Col.	1,926
Dover, Me.	639
Duluth, Minn.	1,459
Fort Wayne, Ind.	981
Galesburg, Ill.	977
Germantown, Pa.	27
Gordonsville, Pa.	96
Grafton, Va.	254
Green Bay, Wis.	1,055
Hartford, Conn.	340
Helena, Mont.	2,820
Indianapolis, Ind.	639
Kansas City, Mo.	1,228
Kenosha, Wis.	863
Keokuk, Ia.	1,063
Lawrence, Mass.	497
Leavenworth, Kan.	1,387
Long Bridge, Va.	2
Louisville, Ky.	761
Lowell, Mass.	458
Lynchburg, Va.	178
Manasses, Va.	34
Martinsburg, Va.	74
Memphis, Tenn.	1,138
Mendota, Ill.	897
Montreal, Can.	526
Mt. Vernon, O.	479
Nashville, Tenn.	684
Milwaukee, Wis.	898
Montgomery, Ala.	839
Montpelier, Vt.	636
Navy Yard	2
Newark, O.	454
New Orleans, La.	960
Newport, R. I.	392
New York, N. Y.	230
Ogden, Utah	1,342
Omaha, Neb.	1,310
Parkersburg, Va.	358
Peoria, Ill.	924
Philadelphia, Pa.	138
Piedmont, W. Va.	180
Pittsburgh, Pa.	300
Portland, Ore.	3,860
Providence, R. I.	418
Quincy, Ill.	1,075
Raleigh, N. C.	286
Richmond, Va.	77
Rock Island, Ill.	994
Sacramento, Cal.	3,073
St. Louis, Mo.	951
St. Paul, Minn.	1,223
Salt Lake City, Utah	2,379
San Francisco, Cal.	2,981
Sioux City, Ia.	1,328
Springfield, Mass.	919
Tiffin, O.	566
West Point, N. Y.	280
Wheeling, W. Va.	353
Winnipeg, Man.	1,658
Winona, Minn.	1,119
Yankton, D. T.	1,416
Zanesville, O.	428

STATE AND THE 47 COUNTIES OF FLORIDA

With Their Boundaries



FLORIDA

Location and Population of FLORIDA COUNTIES

Location	COUNTIES	Pop. 1910
1	Escambia	36,549
2	Santa Rosa	14,897
3	Walton	16,460
4	Holmes	11,557
5	Jackson	29,821
6	Washington	16,403
7	Calhoun	7,465
8	Liberty	4,700
9	Gadsden	22,198
10	Leon	19,427
11	Wakulla	4,802
12	Franklin	5,201
13	Jefferson	17,210
14	Madison	16,919
15	Taylor	7,103
16	Lafayette	6,710
17	Suwanee	18,603
18	Hamilton	11,825
19	Columbia	17,689
20	Baker	4,805
21	Nassau	10,525
22	Duval	75,163
23	Bradford	14,090
24	Clay	6,116
25	Alachua	34,305
26	Putnam	13,096
27	St. John	13,208
28	Levy	10,361
29	Marion	26,941
30	Citrus	6,731
31	Hernando	4,997
32	Pasco	7,503
33	Sumter	6,696
34	Lake	9,509
35	Orange	19,107
36	Volusia	16,510
37	Hillsboro	78,374
38	Polk	24,148
39	Osceola	5,507
40	Brevard	4,117
41	Manatee	9,550
42	De Soto	14,200
43	St. Lucie	4,075
44	Lee	6,294
45	Palm Beach	5,577
46	Monroe	21,563
47	Dade	11,933
	Total	752,615

FLORIDA CITIES AND VILLAGES WITH 1910 POPULATIONS.

Towns	Loca.	Pop.
A		
Alachua	25	610
Alafia	37	451
Alton	16	309
Altoona	34	220
Alva	44	295
Anthony	29	422
*Apalachicola	12	3,065
Apopka	35	420
*Arcadia	42	736
Arch Creek	47	296
Archer	25	418
Argyle	3	250
Armstrong	27	269
Arredonda	25	390
Ashton	39	280
Ashville	13	250
Auburndale	38	250
Aucilla	13	590
B		
Bagdad	2	580
Baldwin	22	611
*Bartow	38	2,662
Bassenger	39	358
Bell	25	243
Belmore	24	265
Blackman	2	250
Black Point	47	250
Blichton	29	1,031
*Blountstown	7	546
Bluffsprings	1	780
*Bonifay	4	922
Bowling Green	42	422
Boynton	45	280
*Bradentown	41	1,888
Branford	17	620
*Bristol	8	796
*Bronson	28	799
*Brooksville	31	979
Burbank	29	250
Bushnell	33	939
Byrd	27	269
C		
Callahan	21	390
Campbell	39	309
Campville	25	250
Capps	13	360
Carrabelle	12	906
Cedar Keys	28	864
Center Hill	33	299
Century	1	1,060
Ch'rl'tte H'rb'r	42	266
Chaseville	22	246

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Florida Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Chattahoochee	9	580
Chester	21	280
Chipley	6	1,099
Christina	38	296
Chumuckla	2	380
Citra	29	394
Citronelle	30	545
Clarksville	7	480
Clearwater	37	1,171
Clermont	34	295
Cocoa	40	613
Coco'nut Gr've	47	850
Coleman	33	387
Columbia	19	292
Como	26	280
Concord	9	1,566
Conway	35	301
Cottondale	5	250
Cow Creek	36	479
*Crawfordville	11	250
Crescent City	26	677
Crewsville	42	411
Croom	31	396
Crystal River	30	663
D		
*Dade City	32	1,006
Dallas	29	289
Dania	47	283
Day	16	250
Daytona	36	3,082
Daytona Beach	36	331
*DeFuniak Spgs	3	3,017
*DeLand	36	2,812
Deleon Spgs	36	216
Dellwood	5	209
Dowling Park	17	290
Drayton Island	26	260
Drews	19	296
Dunedin	37	256
Dunnellon	29	1,227
Dutton	25	380
E		
Eau Gallie	40	329
Eden	43	225
Ellenton	41	250
Ellzey	28	250
Enterprise	36	260
Esto	4	340
Etna	30	300
Eureka	29	526
Eustis	34	910
F		
*Fernandina	21	3,482
Fessenden	29	360
Festus	13	306
Floral City	30	488
Fogartyville	41	250
Fort Meade	38	1,165
*Fort Myers	44	2,463
Fort Ogden	42	380
*Fort Pierce	43	1,333
Fort White	19	329
Francis	26	250
Freeport	3	869
Fulton	22	280
G		
*Gainesville	25	6,183
Garniers	2	200
Gary	37	335
Georgetown	26	299
Goldsboro	35	286
Graceville	5	734
Grahamsville	29	280
Grand Ridge	5	396
*Green Cove Springs	24	1,319
Greenville	14	751
Greenwood	5	469
Gretna	9	201
H		
Hague	25	280
Hamburg	14	325
Hampton	23	265
Harney	37	286
Hastings	27	399
Havana	9	432
Hawthorn	25	324
Hernando	30	592
Highland	24	399
High Springs	25	1,468
Hilliard	21	280
Holder	30	370
Hollister	26	200
Holly Hill	36	207
Homeland	38	300
Hosford	8	370
Hudson	32	210
I		
Inglis	28	360
Interlachen	26	263
*Inverness	30	350
Istachatta	31	225
J		
*Jacksonville	22	57,099
*Jasper	18	1,730
Jennings	18	480
Jonesville	25	225
K		
*Key West	46	19,945
Kings Ferry	21	249
Kingston	36	289
*Kissimmee	39	2,157
Komoko	25	202
L		
LaCrosse	25	350
Lake Butler	23	685
*Lake City	19	5,032
Lake Como	26	200
Lake Helen	36	646
Lakeland	38	3,719
Lakewood	3	360
Lamont	13	485
Largo	37	291
Laurelhill	3	316
Lawtey	23	492
Leesburg	34	991
Lemon City	47	860
Levon	29	382
Levyville	28	490
Limestone	3	650
Lisbon	34	226
Littleriver	47	306
*Live Oak	17	3,450
Lloyd	13	369
Longwood	35	200
Lukens	28	200
Lumberton	32	289
Luraville	17	320
M		
McClenny	20	370
McIntosh	29	396
*Macclenny	20	388
*Madison	14	1,560
Manatee	41	988
Mandarin	22	1,600
Marathon	46	250
Marco	44	250
*Marianna	5	1,915
*Mayo	16	578
Mayport	22	441
Melrose	25	245
Meredith	28	496
*Miami	47	5,471
Micanopy	25	613
Middlebury	24	340
Millview	1	495
Millville	6	1,260
*Milton	2	831
Molino	1	219
Montbrook	28	295
*Monticello	13	1,829
Morriston	28	296
Morse	38	272
Moseley	14	369
Mossbluff	29	225
Mount Dora	34	371
Mulberry	38	1,418
N		
Naranja	47	560
Nashua	26	200
New Augustine	27	1,284
New Berlin	22	225
Newberry	25	816
New Smyrna	36	1,121
Newtown	28	309
Nichols	38	509
Nocatee	42	250
Norma	4	806
O		
Oakland	35	211
O'Brien	17	275
*Ocala	29	4,370
Okahumpka	34	280
Olustee	20	299
Orange	8	496
Orange City	36	490
Orange Park	24	372
Orient	37	360
*Orlando	35	3,894
Ormond	36	780
Osteen	36	392
Oviedo	35	550
Oxford	33	325
P		
Pablo Beach	22	249
*Palatka	26	3,779
Palatka Hei'ts	26	367
Palm Beach	45	460
Palmetto	41	773
Panama City	6	422
Panasoffkee	33	296
Panway	38	200
Pedro	29	250
*Pensacola	1	22,982
*Perry	15	1,013
Picolata	27	200
Pierce	38	290
Pierson	36	250
Pine Barren	1	300
Pinemount	17	285
Pinetta	14	200
Plant City	37	2,481
Planter	46	300
Platt	42	200
Point Washington	6	300
Pomona	26	300
Ponce de Leon	4	200
Port Orange	36	200
Port Tampa City	37	1,343
Punta Gorda	42	1,012
Q		
*Quincy	9	3,204
R		
Reddick	29	498
River Jct	9	800
Rochelle	25	200
Rosewood	28	300
S		
St. Andrew	6	675
St. Augustine	27	5,494
St. Cloud	39	1,800
St. Joseph	32	200
St. Marks	11	200
St. Nicholas	22	4,127
St. Petersburg	37	4,127
Sanford	35	3,570
Sarasota	41	840
Seabreeze	36	308
Sebastian	43	220
Seffner	37	299
Seville	36	206
Sneads	5	506
Sorrento	34	210
So. Jacks'ville	22	1,147
Southport	6	200
Spring Garden	36	250
Springhill	10	200
*Starke	23	1,135
Stuart	45	500
Summerfield	29	225
*Sumterville	33	290
Survey	44	260
Suwanne	17	209
T		
Tallahassee	10	5,018
*Tampa	37	37,782
Tarpon Springs	37	2,212
Tavernier	46	306
Telogia	8	392
Thonotosassa	37	300
*Titusville	40	868
Tompkins	6	286
Trenton	25	304
Trilby	32	289
Tyler	25	386
U		
Umatilla	34	283
V		
Vicksburg	6	390
W		
Waldon	25	540
Warrington	1	1,301
Watertown	19	250
Wauchula	42	1,099
Waukeenah	13	309
Wausau	6	460
Webster	33	301
Welaka	26	294
Wellborn	17	247
Westlake	18	350
*West Palmbeach	45	1,743
West Pompano	45	269
West Tampa	37	8,258
Westville	4	865
Wewahitchka	7	250
White City	43	780
White Springs	18	1,177
Whitfield	3	250
Wildwood	33	329
Williston	28	371
Windsor	25	306
Winter Garden	35	351
Winterhaven	38	375
Winter Park	35	570
Y		
Yulee	21	250

Climatic Conditions East Shore, Florida, in Region of Orlando, New Smyrna and Other Florida East Shore Towns.

"This portion of the country is high, the well and mineral waters are above the average. The nearness of the Gulf Stream gives an equable climate so that a large part of the winter is balmy and pleasant as the Indian Summer of the North. In summer the sun is hot, but the heat is tempered by the fresh airs from the ocean. In the house or in the shade of a tree it is invariably cool. The government report shows a maximum temperature of 87 degrees and a minimum temperature of 70 degrees, with strong, cool breezes varying from east to southeast. There is at all times a freshness and vitality in the air that amply compensates for the direct heat of the sun.

"In the winter the tourist or health-seeker flying from zero weather finds here perpetual spring and summer. He will leave the snow drifts and biting winds of Northern winter to find a land where doors and windows are thrown open, the roses blooming in January, and beautifully colored birds flying about his lawn, tame as the robins in the Northern home in May. It is the out-of-door life, made possible by such a climate and so prevalent here, that renders existence under novel conditions so charming. You thank God and take courage, get out your fishing tackle, or just loaf around. The tree lover will find here a new and constant pleasure. Maple, hickories, red cedars and oaks will give him a home feeling, while the cabbage palm gives him unmistakable evidence of being in a winterless climate. The stately cabbage palm, queen of the forests, grows everywhere, and always draws the visitor's attention. The live oaks of this locality are famous. Many of those grand trees are quite equal to the world-known English oaks. Massive, as becomes a tree whose unit is a century, their palpably great age and majestic proportions are enhanced by their priestly drapery of Spanish moss."

FLORIDA

A LAND OF SUNSHINE AND TROPICAL FRUITS. REST AND HEALTH RESORTS

Although this is a region adapted to the growth of tropical and subtropical fruits, **much** of the state is yet **heavily timbered.** Though one of the **first settlements** in North America was made in Florida, the **State is yet** largely a wilderness.

Only one eighth of the total land area is in farms and only one third of the latter is improved.

The State is adapted to the **growing of vegetables** for the northern markets, while pine trees throughout the State yield liberally of turpentine and rosin.

A new variety of orange which will endure low temperature has been lately introduced, the result of losses some time ago from freezing.

The winter temperature of Florida is so generally warm as to attract great numbers of people from the North in the cold seasons. The favor with which the State and the climate are regarded being likely to continue in the future.

The coast waters produce the finest fish, including the sheepshead, redfish, and mullet, besides **green turtle** and oysters, and the numerous lakes and rivers of the interior teem with fresh water species.

In the southern part of the State the summer temperature can only be known from the winter by the **greater abundance** of rainfall. At Key West the difference in temperature is not more than 11 degrees.

CONDENSED FACTS.

Climate.—Jacksonville: Average, January, 55 degrees above; July, 82. Extremes: Highest, 104; lowest, 10 above; rainfall, 54.1 inches. Key West: January, 70; July, 84. Extremes: Highest, 100; lowest, 41 above; rainfall, 38.5. Continuous summer heat of southern and south Florida tempered by constant sea breezes. Uniform winter temperature, and air filled with odor of pine especially beneficial to invalids. Has high reputation as winter health resort.

Dimensions.—Extreme breadth, 400; extreme length, 460 miles. Average width of the peninsula of Florida, 90 miles; length of peninsula, 275 miles.

History.—Mainland discovered by Ponce de Leon, 1513. Explored by De Soto, 1539. Settled by Spaniards at St. Augustine, 1565. Pensacola settled by the French, 1696; given to Great Britain in exchange for Cuba, 1763; retroceded to Spain, 1783; ceded to United States, 1819; territory organized, 1822; admitted as a State, 1845; seceded, 1861; readmitted, 1868.

REST, HEALTH AND PLEASURE RESORTS.

The rapid development of attractive pleasure grounds will be noted by people who go frequently to Florida.

The general idea which has prevailed that the summer time is the **only period** for the vacation is rapidly giving way to the belief that there should be two rest seasons, that the summer season, which affords opportunity for recreation and recuperation, can very profitably be supplemented by a winter season of vacation, that period to be passed in some warm climate.

Florida being so accessible to the people of the eastern and middle States is being visited more and more every winter. The consequence is the great number of pleasure places which have been established in this State in recent years.

DELIGHTFUL CITIES AND POINTS TO VISIT.

These include Jacksonville, which is the mecca for thousands of winter tourists. This city is 18 miles inland from the Atlantic ocean, has an abundance of good hotels, beautiful shell drives, fine parks, and an all-the-year climate.

St. Augustine, oldest city in the United States, located where came Ponce de Leon in 1512. Here was built a fort in 1565, and the town of St. Augustine came into existence, a city today distinguished for its **luxuriously furnished hotels** and charming floral gardens.

A short distance south of Jacksonville are the famous Magnolia Springs, a fine pleasure and health resort.

Continuing along the St. Johns river, fifty-five miles south of Jacksonville, the tourist arrives at Palatka, a beautiful city that nestles amid great live oaks, stately palmettos, cypresses, bay trees, and a great wealth of flowering shrubs.

Going one hundred miles south of Jacksonville the traveler reaches **De Land,** from which finely kept shell roads lead into the dense **pine forests** and to several attractive places in this vicinity.

Stetson University is located here, affording educational advantages for people who sojourn here for periods of several months.

NOTED FISHING RESORTS.

Onward, two hundred miles south of Jacksonville, we reach Sanford, a prosperous town, celebrated for immense celery beds and its fishing and hunting grounds in that vicinity.

Situated in the heart of the charming lake country is **Orlando,** a modern ad most attractive city, the population of which, seen in our list of Florida towns, is greatly increased in the winter time. This is a center for lake boating and fishing. The county roads hereabouts afford splendid drives for the speeding of motor cars.

The location of Ormond, seen on our map, is on a famous beach thirty miles long celebrated for its opportunity for fast automobiling. The American Automobile Association holds its annual meet and races here.

The fine, smooth surface of New Smyrna beach stretches south for many miles and the bluffs are lined with beautiful summer and winter cottages.

Southeast of Titusville is a body of salt water six miles wide where ideal sport is found in fishing, duck shooting, sailing and rowing.

Tarpon Springs is one of the most picturesque and attractive towns on the West Coast; located one and a half miles from the Gulf of Mexico it is an ideal family and winter resort. Great numbers of annual visitors here own their own houses and pass the winter months in the enjoyment of fishing and boating.

Tampa Bay is a highly popular resort for people from the North, who come here every year. A daily steamer service is maintained between Tampa and St. Petersburg, where are finely arranged golf grounds.

Palm Beach is one of the most notable social resort centers in the world. What nature has not done, money has for this delightful spot. Its strip of high land, its elongated island, its beautiful homes, its charming Lake Worth, its shady groves and avenues of palms, its tropical fruits and foliage, its State golfing grounds, and superb hotels all conspire to make this a Paradise of attraction.

Sixty-eight miles south of Palm Beach is Miami, a rapid growing city, from which point the steamers leave for Nassau.

Miami has the most perfect winter climate, it is claimed, in the United States. The summer heat is tempered by the Atlantic breezes and cold is so rare it is unknown.

From Miami to Knight's Key dock the route is over 100 miles of marvelous railway, reaching from one coral island to another. At the terminous of this railway large, finely furnished steamers carry the traveler to Key West.

Southward from the State extends a chain of small rocky islands. These end in a cluster of rocks and sand banks caled the Tortugas, which name comes from the large number of turtles found in the neighboring waters.

The most important of these small rocky islands lying to the southward of Florida, is Key West, an island 6 miles long and 2 broad, with a large **well-sheltered harbor.** At Key West is an important naval station.

Florida Opportunities in Agriculture and Varied Enterprises

The land seeker in Florida will find a **narrow fringe of farm land** along the eastern shore of the State, the soil on which is **favorable** for the growth of **fine apples.** Citrous fruits and **vegetables** for the northern markets.

TWO AND THREE CROPS A YEAR.

The long period of sunshine here, summer and winter, and the nearly **sixty inches** of annual rainfall, permits the raising of **two and three** crops a year on the same land, while the railroads which parallel these lands, and steamers which run to the North Atlantic ports afford ample facilities for the transportation of all food products to the North at very cheap rates.

Between the railroads and the interior, south of St. Augustine, the west coast is swampy and flat. The **farming area** is largely in the interior, being devoted to corn and **cotton** in the **northern part,** and to citrus fruits and **vegetables** further south.

The land-seeker wishing to investgate the prospects for fruit and vegetable production in Eastern Florida should **go to Jacksonville,** there **study** the local market and get information from **fruit dealers** as to conditions. Thence go among the fruit and vegetable growers along the St. John's River.

The outlook is bright for the future of Florida. The State will **steadily grow** in popularity as a winter resort by people who can easily get there from the Atlantic and the **Middle States.** The local and tourist population will so increase as to give an **excellent home market** at good prices, the mild climate making it a **desirable region** in which to live.

The average value of farm lands is less than $10.00 an acre, about **35 per cent** of which land is improved. There are consequently large areas unoccupied where land can be purchased at a low figure.

ONE OF THE HEALTHIEST REGIONS.

Statistics show Florida to be one of the healthiest of the United States, which accounts for so large a number of invalids from the North seeking the genial climate of the State. **A fact not generally understood** is that the summer climate is as delightful as **the winter,** the temperature of July and November being about the same.

The productions of Florida are of an essentially tropical character; cotton, tobacco, rice, sugar-cane, arrowroot, hemp, flax, coffee, and cocoanut flourish throughout all the State. The climate is also favorable to the cultivation of the silkworm and for the cochineal insect.

Since the destructive frosts of a few years ago a new variety of orange has been introduced which is sufficiently hardy to endure any cold weather hereafter liable to occur here.

There are now constantly being successfully grown oranges, lemons, bananas, limes, olives, grapes, and pineapples. All these **grow abundantly** and are of exquisite flavor.

Indian corn, sweet potatoes, beans, peas, and such products of a more northern climate as Irish potatoes, barley, buckwheat, hops, etc., are also raised.

The cultivation and export of oranges and other fruits has grown to be a considerable source of wealth to the State, while the manufacture of cigars, especially at Key West, is an important industry.

The principal forest trees are red, live and water oaks, mahogany, palmetto, magnolia, dogwood, and in the swamps pines, cedars and cypresses.

DRY SEASONS RELIEVED BY DEWS.

The driest seasons are relieved by heavy dews, and the sun that would bake the earth in other parts and wither vegetation, is so tempered by the **pervading moisture** in the sea breeze as to cover the surface with perennial verdure.

Deer of various kinds abound and smaller game is found in all parts of the country.

WHEN PLANT AND HARVEST.

Dates of planting and marketing of the different vegetable crops, as prepared by an authority on the subject:

Vegetable	Date of Planting	Date of Harvesting
Beans	Jan. 15-Feb. 1	March 25-May 1
Beets	Oct. 15-Dec. 15	Feb. 1-May 1
Cabbage	Sept. 15-Dec. 1	Jan. 1-May 1
Carrots	Oct. 1-Dec. 1	Feb. 1-June 1
Cauliflower	Sept. 1-Oct. 1	Jan. 1-March 1
Celery	Aug. 15-Oct. 1	Jan. 15-April 15
Cucumbers	Jan. 15-Feb. 1	April 1-May 1
Egg Plant	Dec. 1-Jan. 1	April 15-June 15
Lettuce	Dec. 1-Jan. 1	April 15-June 15
Melons	Jan. 15-Feb. 1	May 1-July 1
Okra	March 1-July 1	May 15-Dec. 1
Onions	Oct. 1-Dec. 1	April 1-May 1
Peas	Oct. 1-Dec. 1	Dec. 1-March 1
Peppers	Jan. 1-Feb. 1	April 15-June 1
Potatoes	Jan. 1-Feb. 1	April 1-May 1
(Sweet) Potatoes	May 15-July 15	Oct. 1-Jan. 1
Squash	Jan. 1-Feb. 1	March 15-May 1
Tomatoes	Dec. 15-Jan. 15	April 15-June 1

Pecan a Money-Maker. The pecan is one of the paying crops. Extra large fine-flavored nuts are grown in Florida and it will be many years before the market can be given a supply. The history of the industry in Florida shows returns from a pecan grove can be counted on at about the same age as the orange and the profits are as a rule rather greater.

Pineapples. Pineapples yield from seven to ten crops without replanting. The first and principal cost is for the land. The income from the second, third, fourth, fifth and sixth crops is profit. One acre of pineapples containing 10,000 plants yielded 300 crates, averaging 30 to the crate, or 9,000 apples. They netted over transportation and commission $2.00 per crate, or $600.00 per acre. From this same acre 32,000 planting slips were secured, which sold at $6.00 per 1,000, adding to the profit of this same acre $192.00, or a total of $792.00.

Persimmons. The Japanese persimmon is a coming fruit. Comes into bearing quickly and makes an enormous yield of fruit, and like the pecan sheds its leaves and rests in winter when all the garden crops are being grown and may be planted on lands used for trucking.

Strawberries. Florida lands are equal and in respect to climate and soil superior for the growing of the strawberry to any State in the Union. One person last year, by using his family labor in picking, packing, etc., netted over one thousand dollars ($1,000) an acre. This result was obtained without irrigation. One year with another, irrigation is a great advantage.

CLIMATE.

No climate in the United States makes labor so light to the tiller of the soil as that of Florida. There are no violent extremes of temperature, such as are characteristic of the Northern States, and, indeed, of some sections of the South. The climate is genial and equable throughout the entire year.

Many residents of the North are under the impression that the summers are very hot in Florida because the State is located so far south. Nothing could be more erroneous. It is an undeniable fact that the temperature here never rises to so high a point as in the Northern States. This is simply because Florida is a narrow peninsula, having the ocean on one side and the gulf on the other, with cool and constant breezes blowing clear across the State.

There are many cases on record where growers of these crops have made as high as $1,000 to $2,000 an acre, and it would be easy to cite many instances of $200 an acre for cabbage, $225 or even more for cauliflower, $250 for tomatoes, as high as $750 for lettuce, $800 for egg plant, $800 an acre for strawberries and so on. The following are the average returns for certain crops for the year 1908-9:

Product	Per Acre	Per Acre
Rice	30 bushels	$ 45.00
Oats	40 bushels	40.00
Sweet Potatoes	90 bushels	47.20
Velvet Beans	20 bushels	37.00
Millet	2 tons	40.00
Native Hay	1½ tons	30.00
Field Pea Hay	2 tons	36.00
Field Peas	15 bushels	22.50
Irish Potatoes	127 bushels	137.00
Cantaloupes	80 crates	320.00
Watermelons	....	125.00
Grape Fruit	240 boxes	480.00
Beets	200 crates	400.00
Cantaloupes	125 crates	150.00
Peppers	100 crates	200.00
Squash	100 crates	100.00
Strawberries	2,000 quarts	280.00
Pears	136 barrels	430.00
Celery	500 crates	600.00

LITTLE FARMS WELL TILLED.

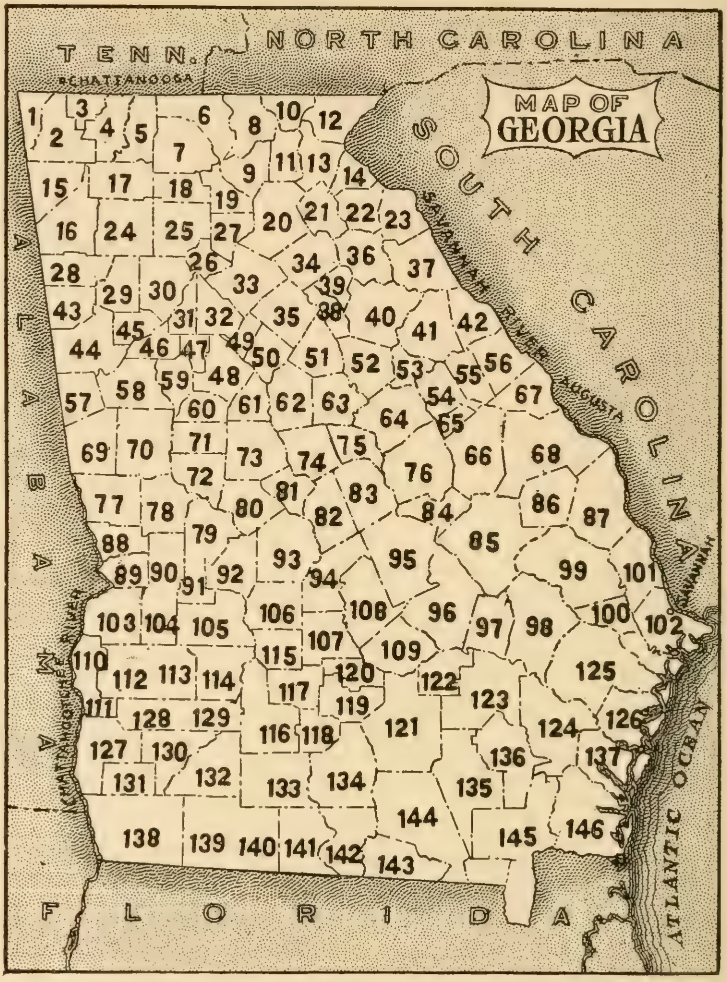
While to the farmer of the West and the Middle West the idea of a farm of ten, twenty or forty acres appears ridiculous, yet here in Florida a farm as large as forty acres is rare and the results obtained from ten and twenty-acre farms are so marvelous that the newcomers to Florida have to be shown.

STATE AND THE 146 COUNTIES OF GEORGIA

With Their Boundaries

Location and Population of GEORGIA COUNTIES

Location	COUNTIES	Pop. 1910
1	Dade	4,139
2	Walker	18,692
3	Catoosa	7,184
4	Whitfield	15,934
5	Murray	9,763
6	Fannin	12,574
7	Gilmer	9,237
8	Union	6,918
9	Lumpkin	5,444
10	Towns	3,932
11	White	5,110
12	Rabun	5,562
13	Habersham	10,134
14	Stephens	9,928
15	Chattooga	13,608
16	Floyd	36,736
17	Gordon	15,861
18	Pickens	9,041
19	Dawson	4,686
20	Hall	25,730
21	Banks	11,244
22	Franklin	17,894
23	Hart	16,216
24	Bartow	25,388
25	Cherokee	16,661
26	Milton	7,239
27	Forsyth	11,940
28	Polk	20,203
29	Paulding	14,124
30	Cobb	28,397
31	Fulton	177,733
32	De Kalb	27,881
33	Gwinnett	28,824
34	Jackson	30,169
35	Walton	25,393
36	Madison	16,851
37	Elbert	24,125
38	Oconee	11,104
39	Clarke	23,273
40	Oglethorpe	18,680
41	Wilkes	23,441
42	Lincoln	8,714
43	Haralson	13,514
44	Carroll	30,875
45	Douglas	8,953
46	Campbell	10,874
47	Clayton	10,453
48	Henry	19,927
49	Rockdale	8,916
50	Newton	18,449
51	Morgan	19,717
52	Greene	18,512
53	Taliaferro	8,766
54	Warren	11,860
55	McDuffie	10,325
56	Columbia	12,338
57	Heard	11,189
58	Coweta	28,800
59	Fayette	10,966
60	Spalding	19,741
61	Butts	13,624
62	Jasper	16,552



COUNTIES OF GEORGIA—Continued.

Loca.	*County*	*Pop.*
63	Putnam	13,876
64	Hancock	19,189
65	Glascock	4,669
66	Jefferson	21,379
67	Richmond	58,886
68	Burke	27,268
69	Troup	26,228
70	Meriwether	25,180
71	Pike	19,495
72	Upson	12,757
73	Monroe	20,450
74	Jones	13,103
75	Baldwin	18,354
76	Washington	28,174
77	Harris	17,886
78	Talbot	11,696
79	Taylor	10,839
80	Crawford	8,310
81	Bibb	36,646
82	Twiggs	10,736
83	Wilkinson	10,078
84	Johnson	12,897
85	Emanuel	25,140
86	Jenkins	11,520
87	Screven	20,202
88	Muscogee	36,227
89	Chattahoochee	5,586
90	Marion	9,147
91	Schley	5,213
92	Macon	15,016
93	Houston	23,609
94	Pulaski	22,835
95	Laurens	35,501
96	Montgomery	19,638
97	Toombs	11,206
98	Tattnall	18,569
99	Bulloch	26,464
100	Bryan	6,702
101	Effingham	9,971
102	Chatham	79,690
103	Stewart	13,437
104	Webster	6,151
105	Sumter	29,092
106	Dooly	20,554
107	Wilcox	13,486
108	Dodge	20,127
109	Telfair	13,288
110	Quitman	4,594
111	Clay	8,896
112	Randolph	18,841
113	Terrell	22,003
114	Lee	11,679
115	Crisp	16,423
116	Worth	19,147

Counties of Georgia—Continued

Loca.	County	Pop.
117	Turner	10,075
118	Tift	11,487
119	Irwin	19,461
120	Ben Hill	11,863
121	Coffee	21,953
122	Jeff Davis	6,050
123	Appling	12,318
124	Wayne	13,069
125	Liberty	12,924
126	McIntosh	6,442
127	Early	18,122
128	Calhoun	11,384
129	Dougherty	16,035
130	Baker	7,973
131	Miller	7,986
132	Mitchell	22,114
133	Colquitt	19,789
134	Berrien	22,772
135	Ware	22,957
136	Pierce	10,749
137	Glynn	15,720
138	Decatur	29,045
139	Grady	18,457
140	Thomas	29,071
141	Brooks	23,832
142	Lowndes	24,436
143	Echols	3,309
144	Clinch	8,424
145	Charlton	4,722
146	Camden	7,690
	Total	2,609,121

Georgia Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
*Abbeville	107	1,201
Acree	129	200
Acworth	30	1,043
Adairsville	24	751
Adel	134	1,902
Adrian	85	816
Ailey	96	306
Ainslee	94	200
Alamo	96	249
Alapaha	134	532
*Albany	129	8,190
Alexanderville	143	200
Allapaha	134	429
Alma	123	458
*Alpharetta	26	356
*Americus	105	8,063
Amsterdam	138	250
Apalachee	51	481
*Appling	56	200
Arabi	115	433
Aragon	28	1,200
Argyle	144	280
Arlington	128	1,308
*Ashburn	117	2,214
Atco	24	1,000
*Athens	39	14,913
Atkinson	124	200
*Atlanta	31	154,839
Attapulgus	138	360
Auburn	33	217
*Augusta	67	41,040
Austell	30	755
Autreyville	133	200
Avera	66	228
B		
Babb	48	600
Babcock	131	402
Baconton	132	291
Baden	141	300
*Bainbridge	138	4,217
Baldwin	13	280
Ball Ground	25	448
Balloon	144	300
Bannockburn	134	350
Barnesville	71	3,068
Barnett	54	381
Barney	141	300
Bartow	66	384
Barwick	141	381
Battlehill	31	223
*Baxley	123	831
Beach	135	358
Belfast	100	300
Bellville	98	400
Bethlehem	35	209
Bibb City	88	463
Bingen	138	200
Bishop	38	268
*Blackshear	136	1,235
*Blairsville	8	208
*Blakely	127	1,838
*Blue Ridge	6	898
Bluffton	111	325
Bogart	38	257
Boston	140	1,130
Bostwick	51	333
Bowdon	44	541
Bowersville	23	398
Bowman	37	738
Bremen	43	890
Brewton	95	214
Bridgeboro	116	350
Brinson	138	707
Bronwood	113	465
Brooklet	99	361
Brooks	59	200
Broxton	121	1,040
*Brunswick	137	10,182
*Buchanan	43	462
Buckhead	51	384
*Buena Vista	90	1,016
Buford	33	1,688
Bullockville	70	204
Burtsboro	9	250
*Butler	79	705
Byronville	106	300
Byron	93	300
C		
*Cairo	139	1,505
*Calhoun	17	1,632
Camak	54	241
*Camilla	132	1,827
Campania	56	300
Canon	22	728
*Canton	25	2,002
Carlton	36	325
*Carnesville	22	322
*Carrollton	44	3,297
*Cartersville	24	4,067
Cassville	24	500
Cave Spring	16	805
Cecil	134	354
*Cedartown	28	3,551
Center	34	208
Chatsworth	5	314
Chattahoochee	31	1,000
Chauncey	108	350
Chester	108	278
Chickamauga	2	312
Chipley	77	742
*Clarkesville	13	528
Clarkston	32	349
Claxton	98	1,008
*Clayton	12	541
*Cleveland	11	200
Clifton	100	1,000
Clifton	32	2,500
Climax	138	328
Clinton	74	850
Clyo	101	200
Cobbtown	98	254
Cochran	94	1,638
Cohutta	4	283
Colbert	36	255
Coleman	112	354
Cole City	1	700
Collegepark	31	2,173
Collins	98	327
*Colquitt	131	600
*Columbus	88	20,554
Comer	36	868
Commerce	34	238
Concord	71	450
*Conyers	49	1,919
Coolidge	140	303
*Cordele	115	5,883
Cornelia	13	1,114
Council	144	250
*Covington	50	2,697
Crandall	5	220
Crawford	40	870
Crawfordville	53	668
Creighton	25	300
Culloden	73	365
Culverton	64	283
*Cumming	27	305
*Cusseta	89	341
*Cuthbert	112	3,213
D		
*Dahlonega	9	829
Daisy	98	200
*Dallas	29	1,259
*Dalton	4	5,324
Danburg	41	272
*Danielsville	36	323
Danville	82	299
*Darien	126	1,391
Davisboro	76	598
*Dawson	113	3,827
*Decatur	32	2,463
Demorest	13	760
*Denton	122	300
Desoto	105	228
Devereaux	64	250
Dexter	95	550
Diffee	138	400
Dixie	141	242
Dodge	2	700
Doerun	133	630
Donalsonville	138	749
Dorchester	125	200
*Douglas	121	3,550
*Douglasville	45	1,462
*Dublin	95	5,795
Duluth	33	469
Du Pont	144	342
E		
East Ellijay	7	291
*Eastman	108	2,355
East Point	31	3,682
E. Thomaston	72	385
*Eatonton	63	2,036
Edgewood	32	2,500
Edison	128	841
Egan	31	200
Egypt	101	400
*Elberton	37	6,483
Elko	93	273
Ellabell	100	250
*Ellaville	91	672
*Ellijay	7	659
Elsie	135	300
Emerson	24	316
Empire	108	250
Enigma	134	338
Epworth	6	278
Essie	12	200
Eton	5	309
Euharlee	24	200
Evelyn	133	200
Ewing	144	200
Experiment	60	500
F		
Faceville	138	325
*Fairburn	46	1,395
Fair Mount	17	326
Fargo	144	300
Farmington	38	200
*Fayetteville	59	709
Ficklin	41	211
Fife	46	200
Finleyson	94	232
*Fitzgerald	120	5,795
Fleming	125	200
Flovilla	61	495
Flowery	20	373
*Folkston	145	355
*Forsyth	73	2,208
*Fort Gaines	111	1,320
Fort Screven	102	500
Fort Valley	93	2,697
*Franklin	57	340
Freehomes	25	200
Fruitland	143	200
Fry	6	326
Funston	133	236
G		
*Gainesville	20	5,925
Garfield	20	319
Gay	70	210
Geneva	78	210
*Georgetown	110	213
*Gibson	65	367
Gillsville	20	216
Girard	68	229
Glenmore	135	200
Glenville	98	640
Glenwood	96	347
Godfrey	51	337
Gordon	83	702
Grantville	58	1,132
Graymont	85	417
Grayson	33	278
*Greensboro	52	2,120
*Greeneville	70	909
*Griffin	60	7,478
Groveland	100	350
Grovetown	56	558
Guyton	101	545
H		
Habersham	13	200
Haddock	74	312
Hagan	98	784
Hahira	142	650
*Hamilton	77	403
Hammett	80	250
Hampton	48	1,093
Hapeville	31	864
Harlem	56	736
Harrison	76	383
Harrisonville	67	1,882
*Hartwell	23	2,007
Harvest	13	200
*Hawkinsville	94	3,420
*Hazelhurst	122	1,181
Helena	109	890
Hephziba	67	656
Herod	113	214
*Hiawassee	10	200
Hickox	124	231
Higgston	96	207
High Shoals	38	550
Hillsboro	62	209
Hiram	29	254
Hiawasse	10	226
Hogansville	69	1,230
Hollysprings	25	251
*Homer	21	228
*Homerville	144	437
Hoschton	34	429
Huching	40	200
Hutchings	40	200
I		
Iron City	138	459
Irwinton	53	249
Irwinville	119	300
J		
*Jackson	61	1,862
Jacksonville	109	450

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Georgia Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Jakin	127	622
*Jasper	18	332
*Jefferson	34	1,207
*Jeffersonville	82	740
Jenkinsburg	61	237
*Jessup	124	1,415
*Jonesboro	47	970
Junction City	78	225
K		
Kennesaw	30	573
Kestler	127	413
Kildare	101	200
Kingston	24	522
Kingwood	133	267
Kirkwood	32	1,226
Kite	84	241
*Knoxville	80	211
L		
Lacey	126	200
*La Fayette	2	1,590
*Lagrange	69	5,587
Lake Park	142	285
Lambert	125	200
Lavonia	22	1,712
*Lawrenceville	33	1,518
Lawtonville	86	200
Leary	128	430
*Leesburg	114	705
Lela	138	531
Leliaton	121	300
Lenox	134	206
Leslie	105	393
Letford	100	250
*Lexington	40	545
Lilly	106	221
Limerick	125	200
*Lincolnton	42	375
Lindale	16	2,643
Linton	64	202
Linwood	24	533
Lithia Springs	45	227
Lithonia	32	1,428
Locust Grove	48	716
Loganville	35	600
Loneoak	70	247
Longpond	96	250
*Louisville	66	1,039
Ludowici	125	541
Lula	20	309
Lumber City	109	1,195
*Lumpkin	103	1,190
Luthersville	70	349
Lyerly	15	322
*Lyons	97	927
Lytle	2	200
M		
McCaysville	6	1,253
*McDonough	48	882
McIntosh	125	262
*McRae	109	1,160
Mableton	30	300
*Macon	81	40,665
*Madison	51	2,412
Malone	115	300
Manassas	98	200
Manchester	70	922
Manor	135	200
Mansfield	50	589
Mapleton	132	290
Marblehill	18	400
*Marietta	30	5,949
Marion	7	300
Marshallville	92	1,082
Martin	14	377
Maxeys	40	334
Maysville	21	805
Meansville	71	233
Meigs	140	697
Meldrim	101	300
Mento	15	376
Metcalf	140	314
Metter	99	408
Midville	68	603
Milan	109	287
*Milledgeville	75	4,385
*Millen	86	2,030
Millerville	94	400
Millhaven	87	1,000
Milltown	134	1,247
Milner	71	400
Milstead	49	900
Mineralbluff	6	338
Mitchell	65	212
Modoc	85	200
Molena	71	398
*Monroe	35	3,029
Monte	85	300
Montezuma	92	1,630
*Monticello	62	1,508
Moreland	58	312
*Morgan	128	302
Morrow	47	255
Morton	74	250
Morven	141	383
*Moultrie	133	3,349
Mountain Scene	10	250
Mount Airy	13	256
*Mount Vernon	96	605
Mountville	69	226
N		
Nacoochee	11	200
*Nashville	134	990
Naylor	142	538
Nellieville	106	503
Nelson	18	550
Newborn	50	475
Newell	145	200
New Holland	20	2,000
*Newnan	58	5,548
*Newton	130	360
Nicholls	121	720
Nielly	109	200
Nile	141	200
Ninety-Eight Mile Post	121	300
Nona	63	350
Norcross	33	968
Norman Park	133	648
Norwood	54	340
Nye	53	300
O		
Oakfield	116	276
Oakhurst	30	233
Ochlochnee	140	350
*Ocilla	119	2,017
Odum	124	258
Offerman	136	483
*Oglethorpe	92	924
Oliver	87	242
Olympia	142	200
Omaha	103	209
Omega	118	274
Orland	96	457
Osierfield	119	300
Owens	146	200
Oxford	50	655
Ozell	141	200
P		
Palmetto	46	922
Parrott	113	360
Patterson	136	264
Pavo	140	572
Pearson	121	558
Pelham	132	880
Pembroke	100	467
Pendergrass	34	239
Penfield	52	475
Pepperton	61	454
Perkins	86	225
*Perry	93	649
Pidcock	141	250
Pinebloom	121	451
Pinehurst	106	330
Pineview	107	708
Pitts	107	279
Plains	105	400
Pooler	102	337
Porterdale	50	1,000
Potterville	79	300
Poulan	116	652
Powder Sp'gs	30	315
*Preston	104	259
Pretoria	129	369
Pulaski	99	207
Q		
Quitman	141	3,915
R		
Rays Mill	134	300
Rebecca	117	252
Rebel	94	200
Register	99	300
*Reidsville	98	454
Remerton	142	200
Rentz	95	275
Reynolds	79	521
Rhine	108	321
Richland	103	250
Richwood	106	600
Ridgeville	126	300
*Ringold	3	398
Rising Fawn	1	225
Ritch	124	201
Roberta	80	227
Rochelle	107	860
Rock Mart	28	1,034
Rocky Ford	97	385
Rogers	86	300
*Rome	16	12,099
Rossville	2	1,059
Roswell	30	1,158
Roy	7	300
Royston	22	1,422
Rutledge	51	696
S		
Saint Clair	68	200
Saint George	145	272
*Saint Marys	146	691
Saint Simons Mills	137	225
Sale City	132	402
*Sandersville	76	2,641
Sargent	58	200
Sasser	113	441
Satilla Bluff	146	300
*Savannah	102	65,064
Scott	84	212
Scottdale	32	400
Screven	124	276
Senoia	58	1,111
Shady Dale	62	344
Sharon	53	246
Shellman	112	785
Shiloh	77	250
Siloam	52	300
Slate	23	500
Smarrs	73	300
Smithonia	40	266
Smithville	114	574
Smyrna	30	599
Snow	106	300
Social Circle	35	1,590
Soperton	96	469
Sparks	134	842
*Sparta	64	1,715
Spread	66	370
*Springfield	101	504
*Spring Place	5	242
Starrsville	50	400
*Statesboro	99	2,529
Statham	34	621
Stevens Pottery	75	200
Stilesboro	24	200
Stillmore	85	645
Stockbridge	48	200
Stockton	144	200
Stone Mountain	32	1,062
*Summerville	15	657
Summerville	67	4,361
Summit	85	566
Sumner	116	336
Sunny Side	60	200
Surrency	123	259
Suwanee	33	250
*Swainsboro	85	1,313
Sycamore	117	296
*Sylvania	87	1,400
*Sylvester	116	1,447
T		
*Talbotton	78	1,081
Tallapoosa	43	2,117
Tarrytown	96	236
Tate	18	500
Temple	44	711
Tennille	76	1,622
Thebes	125	300
Thelma	144	200
*Thomaston	72	1,645
*Thomasville	140	6,727
*Thomson	55	2,151
Thunderbolt	102	592
*Tifton	118	2,381
Tignall	41	320
Tilton	4	242
*Toccoa	14	3,120
Toomsboro	83	404
*Trenton	1	302
Trion	15	1,721
Tunnel Hill	4	295
Turin	58	263
Tybee	102	786
Ty Ty	118	276
U		
Unadilla	106	1,003
Union City	46	534
Union Point	52	1,363
Upton	121	200
Uvalda	96	200
V		
*Valdosta	142	7,656
Vidalia	97	1,776
*Vienna	106	1,564
Villa Rica	44	855
Vinings	30	250
W		
Waco	43	336
Wadley	66	872
Waleska	25	243
*Warrenton	54	1,368
Warwick	116	266
*Washington	41	3,065
Wassaw	102	543
*Watkinsville	38	483
Waverly Hall	77	300
*Waycross	135	14,485
*Waynesboro	68	2,724
Waynesville	124	300
Waynmanville	72	315
West Point	69	1,906
Whigham	139	627
White Hall	39	230
White Plains	52	407
Whitesburg	44	315
Willacoochee	121	690
Winder	34	2,443
Winokur	145	204
Winterville	39	465
Woodbury	70	917
Woodstock	25	442
Woodville	52	250
Wray	119	400
Wrens	66	616
*Wrightsville	84	1,389
Y		
Yatesville	72	366
Young Harris	10	283
Z		
Zaidee	96	200
*Zebulon	71	602
Zirkle	136	300

A FEW INDUSTRIAL FACTS ABOUT GEORGIA.

Rice.—Rice is an important product which can be easily produced in Georgia of very superior quality. The average yield is about 12 barrels per acre and in favorable seasons a second crop of 8 to 10 barrels may be obtained. This product sells for about $3.50 a barrel.

Transportation.—The facilities for transporting any product of the state to the outside world include over 7,000 miles of steam railway and 2,500 miles of navigable rivers.

Asbestos.—Nearly the entire domestic supply of asbestos, used in fireproofing, electrical insulation, steam pipe and boiler covering, paints and building material, is mined in the Georgia mountains.

Mica. The Georgia mica belt is a continuation of, and promises to be equally as rich as the famous belt of North Carolina which produces today the best mica found in the world.

General Description of the State—Opportunities for New Settlers

GEORGIA

A Land of Subtropical Fruits, Cotton and Rice.

In climate, forestry and lumber, agriculture and horticulture, Georgia has much which will interest the land seeker. Nearly all the productions of temperate and subtropical regions are cultivated here successfully.

Cotton is the great staple and Georgia is one of the foremost of the cotton-producing States. Other staple crops are **corn and rice.** The State ranks third in rice-producing States and third in cotton.

Of sweet potatoes the average annual yield is 5,000,000 bushels.

Diversified farming is becoming more and more general, and market gardening a leading and profitable pursuit. The extent of fruit and vegetable growing for the northern markets may be judged from the fact that there are at present in this State over **120,000 acres** devoted entirely to the growing **of watermelons.**

A lesson being learned is that when a climate and soil is found which is adapted to the production of **a certain staple** fruit or vegetable, for which there is growing and continuous demand the **more cultivators** who engage in raising that article in the district where grown the better for each producer.

Strawberries, peaches, oranges, cantaloupes, grapes, sugar beets and other production of the soil occupy the special attention of great numbers of agriculturists and horticulturists, who find it to advantage to enter into **combination with each other** in the cultivation of the special product. This co-operation of many engaged in the **same line** of agricultural production results in a competition which secures excellence, and causes a **diffusion of information** on the subject of cultivation, harvesting, shipping and marketing which is **helpful to all** farmers and fruit growers who thus combine together.

From a careful reading of these different descriptions of States relating to soil and climate, vegetables and fruits adapted to particular localities the land seeker, especially fond of any special kind of farm or horticultural work, can very closely judge as to which State and to what region he had **better go** to satisfy his inclination.

If lumber business is desired it may be remembered that this State is headquarter for **"Georgia Pine,"** while the great forests are besides abundantly supplied with fine hardwoods, comprising oak, hickory and other woods in such large variety as to annually supply over 200,000,000 feet. In fact the extensive pine forests of this State are one of the **chief sources** of natural wealth, the byproducts of pine—resin and turpentine—yielding an annual revenue some years of **$4,000,000.** The total annual lumber product in various years amounts to **$18,000,000.**

In horticultural production Georgia has the advantage of a climate which, in the interior of the State, permits the ripening of garden products one month earlier than in the northern fields.

The soil of the northwestern part of the State is a rich calcareous deposit; in the north a gray sand and red clay; in the **central cotton belt** a yellow loam with stiff clay subsoil; in the pine barrens and southwest a light sand; in the lowlands it is of a sandy, gravelly character.

HEALTHY REGIONS.

The climate is very healthful, particularly the mountain and pine barren regions, where lung and catarrhal diseases are almost unknown. In the northern portion of the State the snows are light; the winters and summers free from extremes. **In central Georgia** the winters are mild, the summer days excessively hot, but the nights cool. The coast and southwest Georgia have **agreeable winters** with little frost, but the summers are long and enervating and this section is subject to fevers and cholera. The average **annual temperature** is about 65; average rainfall 46 to 50 inches. The extreme limits of frost periods are from October 20 to April 20.

The land seekers in Georgia will find a **general awakening here** in manufacturing. Water power is abundant, widely distributed and continuous as the rivers and **streams never freeze.** Having these advantages, and having no need to import the cotton, wool, iron and wood used, Georgia claims the ability to manufacture more cheaply than any other State. The manufactures include cotton goods, flour and grist mill products, foundry and machine shop products, tar, turpentine, naval stores, and agricultural implements. By the last census the capital employed in manufacturing was shown to be $135,211,561; the employes numbered 992,749, and the value of manufactured products, annually was $151,040,455.

If interested in cotton manufacture the land seeker should go to Augusta, where the claim is made that in that city **more unbleached cotton** is made than in any city in the United States, large quantities of these goods being exported to Africa and China.

Atlanta has numerous industrial enterprises. Rome and Macon are great trade centers and cotton markets. Tallapoosa has glass works and furnaces. West Point cotton mills, and Valdosta naval stores. Large quantities of superior marble for ornamental and building purposes are quarried at Tate and other places and exported to all parts of the Union.

While many negroes are in the agricultural districts the center of colored population has moved west and out of the State. In 1880 **the center** of negro population was in Walker County, Georgia. In 1890 it had moved southwest 22½ miles, but was yet in the same county. In 1900 it had moved across the state line and into DeKalb County, in Alabama, a southwestern movement of 11 miles. The total westward movement of the center from 1880 to 1900 was 27 miles and its southern movement 14 miles, showing that the trend of negro population is South and West, although the number of negroes in the Northern states has increased.

CONDENSED FACTS RELATING TO GEORGIA.

Altitude.—Mt. Enota, in the Blue Ridge Mountains, which rises to an elevation of 4,798 feet. The Blue Ridge enters the State in Towns County, in the north eastern part of the State.

Climate.—Annual average, January: Atlanta, 43 above; July, 78; extreme, 100 above, 8 below; rainfall, 52.0 inches. Savannah, January, 51; July 82; extreme, 105 and 8 above; rainfall, 51.9.

Dimensions.—Area of state: Extreme length 315 miles; breath 250 miles.

Public Institutions.—Location of: Asylum for insane and penitentiary, Milledgeville; School for deaf and dumb, Cave Spring, Floyd County; Asylum for blind, Macon; Reform school, Augusta; State University, Athens; School for feeble-minded, Milledgeville; State Historical Society, Savannah; State Agricultural School, Dahlonega; Eye and ear infirmary, Atlanta; State normal training school, Atlanta; State fisheries, Atlanta; Orphan asylums, Decatur and Augusta.

Voter.—Must be citizen who has paid all his taxes since 1877, been a resident of the State one year, of the county six months. Excluded if convicted of bribery, felony or larceny, unless pardoned; idiots and insane.

NEW GREAT INDUSTRY OF GEORGIA.

Cottonseed Oil.—It is only within the last few years that the cottonseed has been discovered to be almost as valuable as the cotton itself. For general cooking purposes cottonseed oil has no superior. A purely vegetable fat, it possesses peculiar dietic and hygienic properties. As a general food for cattle, horses, sheep and hogs, cottonseed meal and cottonseed hulls are unequaled. They are both a builder and fattener and stock fed upon them are invariably strong and healthy. The product from the 140 cotton mills of Georgia annually is worth over $14,000,000 and the export brings to the state $4,500,000. Seventeen million dollars are now invested there in the manufacture of cottonseed meal.

GEORGIA "PAPER SHELL" PECAN NUTS.

Another Georgia industry of great promise is the cultivation of the pecan, the most valuable of all the commercial nuts.

King of all the nut-bearing trees, the pecan attains to greatest degree of perfection in the cotton belt, and Professor John Craig of Cornell University, one of the foremost authorities on horticultural subjects in the United States, first decided upon Georgia as the ideal locality for the production of this delicious nut on a commercial scale.

The Georgia nut is termed the "paper shell" pecan, on account of the ease with which it is broken by the pressure of the thumb and forefinger. They attain immense size.

STATE AND THE 27 COUNTIES OF IDAHO

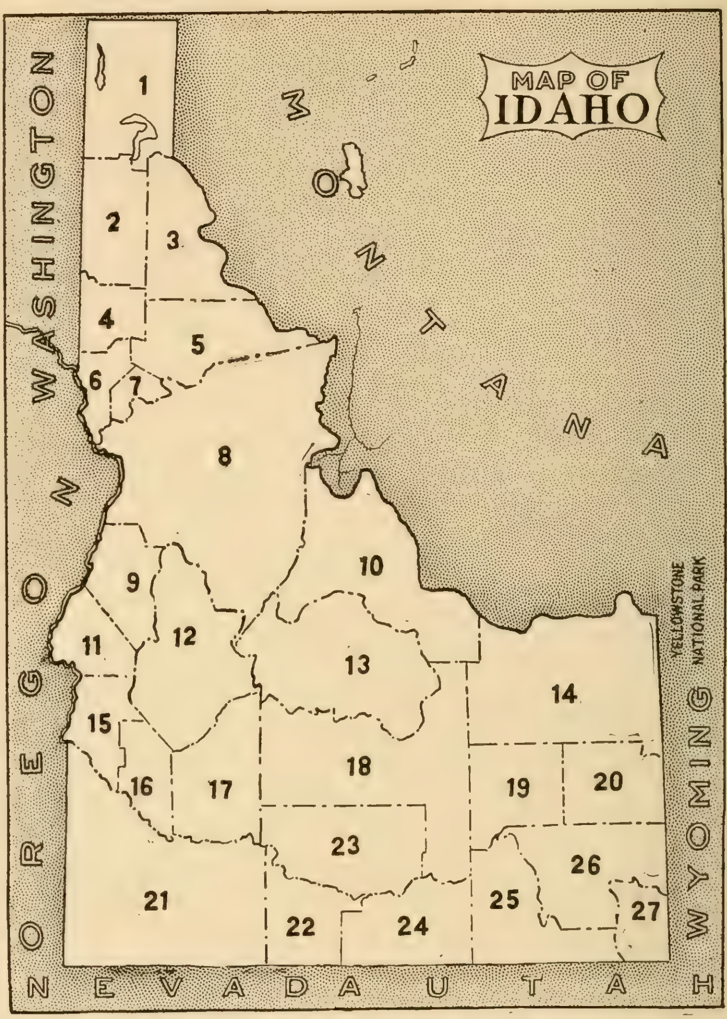
With Their Boundaries

Location and Population of IDAHO COUNTIES

Location	COUNTIES	Pop. 1910
1	Bonner	13,588
2	Kootenai	22,747
3	Shoshone	13,963
4	Latah	18,818
5	Clearwater	....
6	Nez Perce	24,860
7	Lewis	....
8	Idaho	12,384
9	Adams	......
10	Lemhi	4,786
11	Washington	11,101
12	Boise	5,250
13	Custer	3,001
14	Fremont	21,603
15	Canyon	25,323
16	Ada	29,088
17	Elmore	4,785
18	Blaine	8,387
19	Bingham	23,306
20	Bonneville	25,323
21	Owyhee	4,041
22	Twin Falls	13,543
23	Lincoln	12,676
24	Cassia	7,197
25	Oneida	15,170
26	Bannock	19,242
27	Bear Lake	7,729
Total		325,594

IDAHO.

Towns	*Loca.*	*Pop.*
A		
*Albion	24	392
Almo	24	401
American Falls	25	953
Ammon	20	214
Archer	14	251
Arco	18	322
Ashton	14	502
Athol	2	281
Atlanta	17	302
B		
Bancroft	26	203
Basalt	19	201
Basin	24	302
Bellevue	18	702
*Blackfoot	19	2,202
Bloomington	27	702
*Boise (capital)	16	17,358
Bonners Ferry	1	1,071
Bryan	19	301
Buhl	22	639
Burke	3	501
Burley	24	501
C		
Cabinet	1	251
*Caldwell	15	3,543
Cambridge	11	349
Carey	18	701
Carmen	10	201
*Challis	13	338
Chesterfield	26	325
Clawson	14	252
Clifton	25	502
*Coeur d'Alene	2	7,291
Cottonwood	8	555
*Council	9	312
Culdesac	6	436
Custer	13	201
D		
De Lamar	21	701
Dempsey	26	246
Desmet	2	501
Downey	26	301
Driggs	14	252
Dubois	14	502



IDAHO CITIES AND VILLAGES WITH 1910 POPULATIONS

Towns	*Loca.*	*Pop.*
E		
Elba	24	301
Elk City	8	201
Emmett	15	2,351
F		
Fairview	25	401
Farnum	14	201
Featherville	17	102
Filer	22	214
Franklin	25	534
G		
Garner	25	502
Gem	3	375
Genesee	4	742
Gentile Valley	26	201
Georgetown	27	412
Gibbonsville	10	502
Glenns Ferry	17	802
Gooding	23	1,444
*Grangeville	8	1,534
Granite	1	252
Grant	14	201
Gray	20	201
H		
Haden	14	503
Hagerman	23	308
Hahn	10	201
*Hailey	18	1,231
Harrison	2	932
Heyburn	23	403
Hope	1	215
Horse Shoe Bend	12	202
I		
*Idaho City	12	262
*Idaho Falls	20	4,827
Ilo	7	209
Independence	14	302
Inkom	26	203
Iona	20	353
Irwin	20	252
Jerome	23	972
Juliaetta	4	414
K		
Kamiah	7	324
Kellogg	3	1,273
Kendrick	4	543
Ketchum	18	201
Kooskia	8	301
Kootenai	1	252
L		
Laclede	1	402
Lago	26	301
Lane	2	201
*Lewiston	6	6,043
Lewisville	14	346
Lincoln	20	401
Lookout	6	203
Lorenzo	14	252
Lost River	18	301
Lyman	14	403

Idaho Cities and Villages with 1910 Populations—Continued

Towns	*Loca.*	*Pop.*
M		
McCammon	26	321
Mackay	13	638
*Malad City	25	1,303
Marion	24	551
Marysville	14	298
Meadows	9	251
Menan	14	299
Meridian	16	619
Middleton	15	450
Midvale	11	201
Milner	22	201
Minkcreek	25	201
Monroe	19	351
Montpelier	27	1.924
*Moscow	4	3,670
*Mount'n Home	17	1,411
Mullan	3	1,667
N		
Nampa	15	4,205
Naples	1	251
New Plymouth	15	274
*Nez Perce	7	599
Niter	26	402
Novene	27	462
O		
Oakley	24	911
Oreana	21	302
*Orofino	5	389
Ovid	27	351
Oxford	26	502
P		
*Paris	27	1,038
Parker	14	432
Parma	15	338
Payette	15	1,948
Peck	6	236
*Pocatello	26	9,112
Post Falls	2	658
Potlatch	4	1,500
Preston	25	2,110
Priest River	1	248
Princeton	4	201
R		
Rathdrum	2	725
Reno	14	202
Rexburg	14	1,893
Reynolds	21	201
Rigby	14	555
Robin	26	251
Rocky Bar	17	201
Rossfork	19	1,402
Rudy	14	203
Rupert	23	297
S		
*Saint Anthony	14	1,228
Saint Charles	27	602
Saint Maries	2	869
*Salmon	10	1,434
Salubria	11	302
Samaria	25	366
*Sand Point	1	2,993
Shelley	19	537
*Shoshone	23	1,155
*Silver City	21	403
Soda Springs	26	501
Soldier	18	266
South Boise	16	885
Spirit Lake	2	907
Squirrel	14	201
Star	16	301
Stites	8	301
Sugar	14	391
T		
Teton	14	701
Thornton	14	252
Troy	4	548
*Twin Falls	22	5,258
V		
Vanwyck	12	279
Victor	14	301
Vollmer	7	332
W		
*Wallace	3	3,001
Wardner	3	1,369
*Weiser	11	2,603
Wendell	23	482
Weston	25	398
Whitney	25	202
Winchester	7	403

Opportunities in Agriculture and Varied Enterprises

Idaho is a part of the Rocky Mountain range, with its area so broken by vast mountains, the tops of which are so covered with perpetual snow, as to greatly limit that portion of the State which is susceptible to a high degree of agricultural usefulness.

A study of geology reveals the fact that these lofty mountains were **once volcanos,** and over the plains in the valleys, covering hundreds of square miles, the lava ran down from the mountain craters and made the foundation upon which, in the lapse of thousands of years, a fertile soil has been created where can be grown most abundant crops of wheat, various grains and fruits in generous variety.

Aided by irrigation and the intense sunshine, which prevails in the valleys, the soil is among the most productive in the world, vegetables and fruits of the finest flavor coming to perfection here two weeks earlier than in other parts of the country in similar latitude.

GOOD MARKET TOWNS

The numerous mining camps which abound among the mountains make an excellent and steady market for all the agricultural productions which can be raised here.

If there is an excess the superior quality and flavor of the fruits make **active demand** for Idaho productions in Eastern markets.

The supposition is the land seeker and owner of this book is searching for highly productive land at low prices in healthy climate, accessible to market.

We therefore dwell particularly on the agricultural features of a region about which we write.

While a study of the topography of Idaho shows it to be in the Rocky Mountain regions, yet investigation shows that it lies mostly to the **West of the Rockies,** vast stretches of country being lava plains, an arid region only requiring irrigation to make the soil exceedingly productive.

The irrigation problem has occupied the attention of the people of the State for years, has resulted in improving **38 per cent** of the agricultural area, and has added $12,000,000 of annual agricultural wealth to the State.

The home seeker who contemplates settlement in any State naturally enquires concerning the future of that State. As the agricultural wealth of Idaho **largely hangs** on irrigation, it is important to see what the government and private enterprise are intending to do in the reclaiming of desert land.

See elsewhere Government irrigation in this book.

Gold was discovered in the Clearwater River Valley, Orafino Creek, in Nezperce county in 1860. In 1862 placers were discovered in Idaho Basin, which have yielded in **150 square miles** more than $50,000,000.

In 1900 Idaho ranked fourth in the silver producing states. In the Coeur d'Alene district, in Nezperce county, is produced one fourth of the **entire lead product** of the United States, and is the **chief supply** for the smelters of Colorado, Montana and Washington. There are valuable copper deposits in the Seven Devils' district in Washington and Idaho counties. **Cinnabar** has been discovered carrying a high per cent in quicksilver.

The agricultural resources are great in all parts of the State.

In climate of Idaho, between plains, valleys and mountains are found great contrasts. The tall mountains of the northern part so **arrest the passing clouds** as to absorb the most of the moisture they contain, the remaining moisture falls largely in the form of snow. Hence the **perpetual** snow on the **mountain tops** and the **deep snows** in the valleys of the northern part of the State.

The result of this great precipitation in the mountains and upper levels is **lack** of rainfall and moisture in the lower plains and valleys. The melting snow of summer give an **unfailing supply** of water to all the mountain streams, the most of which run at so high a level as to permit their being turned into canals from which an abundance of water may be obtained to irrigate all the low lands.

The long cloudless days, warm temperature and never failing water supply make ideal agricultural conditions in Idaho, which combined with rapidly opening market towns, in the mining regions, the immense yellow pine timber supply, the dry and remarkably healthful atmosphere, the great number of rapid running streams, furnishing power as required—all these advantages must result in the rapid upbuilding of the State.

The land seeker from the East soon after entering the State can get very full information as to advantages and opportunities in this region for new settlers at Idaho Falls, in Bingham county, where there is an **agricultural experiment station.** There are thousands of acres here unsettled and open to filing under the desert and homestead acts.

The price of land, under ditch, ranges from $10 to $20 per acre, unimproved $5 to $10 per acre.

The depth of snow in the winter is one of the principal reasons why stock raising **cannot be a success** in the extreme northern part of the State.

The timber resources of Idaho are immense. The great timber belts are estimated to comprise **35,000 square miles.**

Altitude: Average elevation, 4,700 feet. Lowest elevation, 647 feet at Lewiston, at junction of Clearwater River with Snake River in Nezperce county. Highest elevation, 12,078 feet. Hyndman Peak in Blaine county.

Climate varies with the altitude; air dry and highly rarified. Winter extremely cold and heavy snowfalls in mountain districts; winters moderate on the plains; temperature mild and snowfall light in the valleys. Average annual precipitation over entire State 17.52 inches. In extreme northern part of the State 46.88 inches, in southern tier of counties, 8.03 inches.

Average annual temperature at Boise, Ada county, 50.9 degrees above, the extremes being 28 below the coldest, and 107 the warmest. Climate very healthy, perhaps no State in the Union showing so low a death rate.

Dimensions: Extreme length of State 490 miles; extreme width, 305 miles; area, 84,800 square miles.

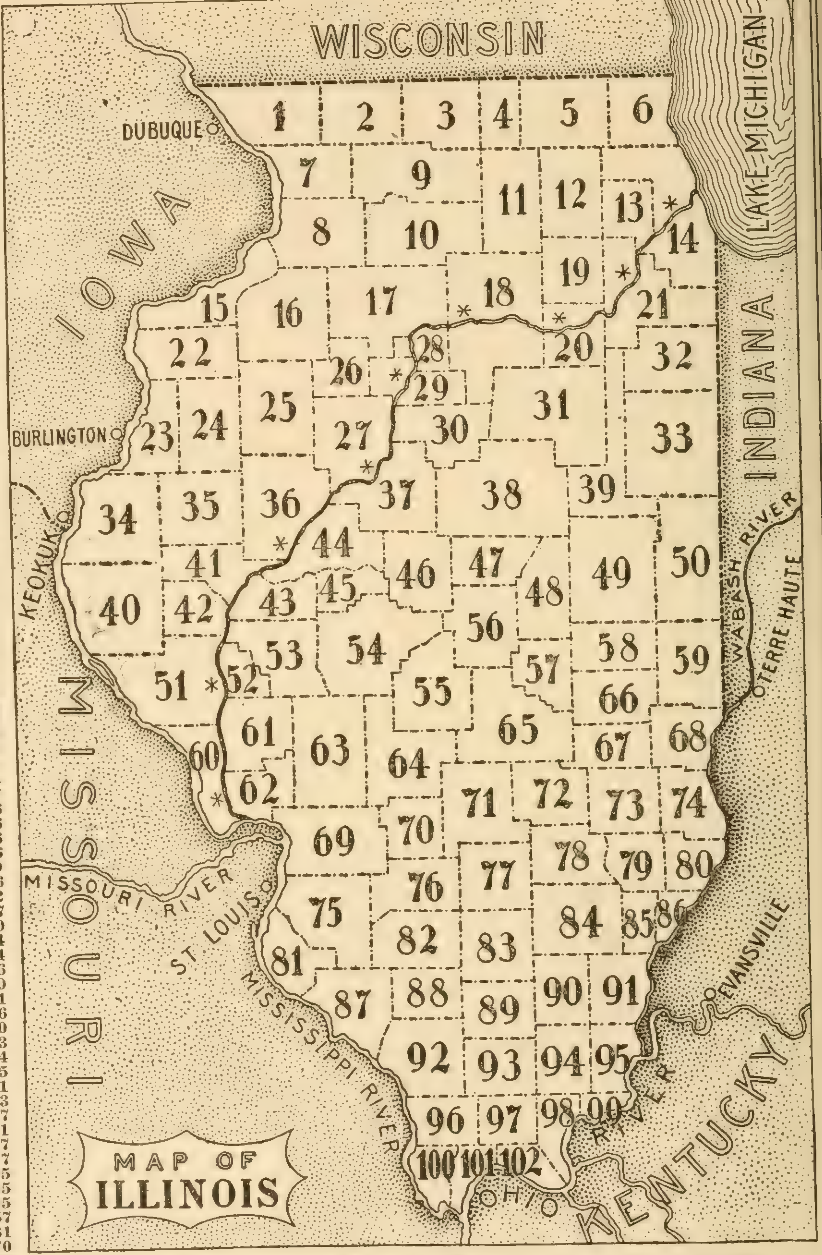
History: Following down the Clearwater River the Lewis and Clark Expedition passed through the region, now in Nezperce county, in 1806. Father De Smet, a Jesuit missionary, established a mission near Coeur d'Alene lake in Kootenai county in 1842. Prospectors began coming into the State during the gold excitement of 1852. The territory of Idaho established in 1863.

STATE AND THE 102 COUNTIES OF ILLINOIS

With Their Boundaries

Location and Population. of ILLINOIS COUNTIES

Location	COUNTIES	Pop. 1910
1	Jo Daviess	22,657
2	Stephenson	36,821
3	Winnebago	63,153
4	Boone	15,181
5	McHenry	32,509
6	Lake	55,058
7	Carroll	18,035
8	Whiteside	34,507
9	Ogle	27,864
10	Lee	27,750
11	DeKalb	33,457
12	Kane	91,862
13	DuPage	33,432
14	Cook	2,405,233
15	Rock Island	70,404
16	Henry	41,736
17	Bureau	48,975
18	La Salle	90,132
19	Kendall	10,777
20	Grundy	24,162
21	Will	84,374
22	Mercer	19,723
23	Henderson	9,724
24	Warren	23,313
25	Knox	46,159
26	Stark	10,098
27	Peoria	100,255
28	Putnam	7,761
29	Marshall	16,679
30	Woodford	20,506
31	Livingston	40,465
32	Kankakee	40,752
33	Iroquois	35,543
34	Hancock	30,638
35	McDonough	26,887
36	Fulton	49,549
37	Tazewell	34,027
38	McLean	68,008
39	Ford	17,096
40	Adams	64,588
41	Schuyler	14,852
42	Brown	10,397
43	Cass	17,372
44	Mason	17,377
45	Menard	12,796
46	Logan	30,216
47	Dewitt	18,906
48	Platt	16,736
49	Champaign	51,859
50	Vermilion	77,996
51	Pike	28,622
52	Scott	10,067
53	Morgan	34,420
54	Sangamon	91,024
55	Christian	34,594
56	Macon	54,186
57	Moultrie	14,630
58	Douglas	19,591
59	Edgar	27,336
60	Calhoun	8,610
61	Greene	22,363
62	Jersey	13,954
63	Macoupin	50,685
64	Montgomery	35,311
65	Shelby	31,693
66	Coles	34,517
67	Cumberland	14,281
68	Clark	23,517
69	Madison	89,847
70	Bond	17,075
71	Fayette	28,075
72	Effingham	20,055
73	Jasper	18,157
74	Crawford	26,281
75	St. Clair	119,870
76	Clinton	22,832
77	Marion	35,094
78	Clay	18,661
79	Richland	15,970
80	Lawrence	22,661
81	Monroe	13,508
82	Washington	18,759
83	Jefferson	29,111
84	Wayne	25,697
85	Edwards	10,049
86	Wabash	14,913
87	Randolph	29,120
88	Perry	22,088
89	Franklin	25,943
90	Hamilton	18,227
91	White	23,052
92	Jackson	35,143
93	Williamson	45,098
94	Saline	30,204
95	Gallatin	14,628
96	Union	21,856
97	Johnson	14,331
98	Pope	11,215
99	Hardin	7,015
100	Alexander	22,741
101	Pulaski	15,650
102	Massac	14,200
	Total	5,638,591



Stars on Map Indicate Route of Proposed Ship Canal Across Illinois

Illinois Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
Abingdon	25	2,464
Adair	35	309
Adams	40	250
Addieville	82	269
Addison	13	579
Akin	89	208
Albany	8	618
*Albion	85	1,281
Alden	5	209
*Aledo	22	2,144
Alexander	53	260
Alexis	24	829
Algonquin	5	642
Alhambra	69	433
Allendale	86	560
Allenville	57	245
Allerton	50	364
Alma	77	380
Alpha	16	358
Altamount	72	1,328
Alton	69	17,528
Altona	25	528
Alto Pass	96	551
Alvin	50	319
Amboy	10	1,749
Anchor	38	250
Andalusia	15	299
Andover	16	222
Anna	96	2,809
Annapolis	74	209
Annawan	16	398
Antioch	6	682
Apple River	1	581
Arcola	58	2,100
Arenzville	43	518
Argenta	56	519
Arlington	17	370
Arlington Hghts	14	1,943
Armington	37	327
Armstrong	50	308
Arrowsmith	38	366
Arthur	58	1,080
Ashkum	33	416
Ashland	43	1,096
Ashley	82	913
Ashmore	66	511
Ashton	10	779
Assumption	55	1,918
Astoria	36	1,357
Athens	45	1,340
Athensville	61	290
Atkinson	16	805
Atlanta	46	1,367
Atwood	48	659
Auburn	54	1,814
Augusta	34	1,146
Aurora	12	29,807
Ava	92	780
Averyville	27	2,668
Aviston	76	397
Avon	36	865
B		
Baden Baden	70	201
Baileyville	2	401
Baldwin	87	358
Banner	36	208
Barclay	54	252
Barrington	14	1,444
Barry	51	1,647
Bartelso	76	344
Bartlett	14	408
Bartonville	27	1,252
Batavia	12	4,436
Batchtown	60	301
Bath	44	475
Baylis	51	385
Beardstown	43	6,107
Beason	46	303
Beaverville	33	491
Beckemeyer	76	764
Beecher	21	543
Beecher City	72	355
Belgium	50	433
Bell	46	372
Belle Rive	83	312
*Belleville	75	21,122
Bellewood	14	943
Bellflower	38	397
Bellmont	86	551
*Belvidere	4	7,253
Bement	48	1,531
Benson	69	205
Benld	63	1,982
Bensenville	13	443
Benson	30	362
*Benton	89	2,675
Berlin	54	251
Bernadotte	36	1,202
Berwyn	14	5,841
Bethalto	69	447
Bethany	57	859
Bible Grove	78	201
Biggsville	23	402
Big Rock	12	251
Billett	80	202
Birds	80	382
Birkner	75	401
Bishop Hill	18	289
Bismarck	50	202
Blackstone	31	250
Blandinsville	35	987
Bloomingdale	13	462
*Bloomington	38	25,769
Blue Island	14	8,043
Bluemound	56	901
Bluffs	52	766
Bois	82	335
Bolton	2	485
Bondville	49	253
Bone Gap	85	517
Bonfield	32	162
Boody	56	275
Bourbon	58	203
Bourbonnais	32	611
Bowen	34	606
Braceville	20	971
Bradford	26	772
Bradley	32	1,942
Braidwood	21	1,951
Breeds	36	202
Breese	76	2,128
Brereton	36	603
Bridgeport	80	2,703
Brighton	63	595
Brimfield	27	576
Bristol	19	394
Broadlands	49	481
Broadwell	46	246
Brocton	59	558
Brookfield	14	2,186
Brooklyn	41	1,569
Brookport	102	1,493
Brookville	9	398
Broughton	90	473
Browning	41	551
Browns	85	419
Brownstown	71	415
Brussels	60	283
Bryant	36	237
Buckingham	32	272
Buckley	33	495
Buda	17	887
Buffalo	54	475
Bunker Hill	63	1,046
Bureau	17	534
Burlington	12	287
Burnham	14	328
Burnside	34	301
Burnt Prairie	91	351
Bush	93	565
Bushnell	35	2,619
Bushton	66	250
Butler	64	233
Byron	9	932
C		
Cabery	39	321
Cable	22	362
Cahokia	75	301
*Cairo	100	14,548
Caledonia	4	291
Calhoun	79	300
Camargo	58	323
*Cambridge	16	1,272
Cameron	24	231
Campbell Hill	92	414
Camp Point	40	1,148
Campus	31	241
Canton	36	10,453
Cantrall	54	318
Capron	4	562
Carbon Cliff	15	367
Carbondale	92	5,411
Carbon Hill	20	820
Cardiff	31	1,031
*Carlinville	63	3,616
Carlock	38	402
*Carlyle	76	1,982
Carman	23	261
*Carmi	91	2,833
Carpentersville	12	1,128
Carriers Mill	94	1,558
*Carrollton	61	2,323
Carterville	93	2,971
*Carthage	34	2,373
Cary Station	5	679
Casey	68	2,157
Caseyville	75	613
Castleton	26	202
Catlin	50	952
Cave in Rock	99	306
Cedar Point	18	545
Cedarville	2	311
Central City	20	287
Central City	77	1,179
Centralia	77	9,681
Cerro Gordo	48	876
Chadwick	7	517
Chambersburg	51	208
Champaign	49	12,421
Chana	9	317
Chanderville	43	884
Channahon	21	208
Chapin	53	552
*Charleston	66	5,884
Chatham	54	666
Chatsworth	31	1,112
Chebanse	33	592
Chemung	5	502
Chenoa	38	1,314
Cherry	17	1,048
Cherry Valley	3	433
*Chester	87	2,747
Chesterfield	63	364
Chestnut	46	301
*Chicago	14	2,185,283
Chicago Heights	14	14,525
Chillicothe	27	1,851
Chrisman	59	1,193
Christopher	89	1,825
Cicero	14	14,557
Cisco	48	379
Cisne	84	373
Cissna Park	33	651
Clarence	39	201
Clarke City	32	231
Clarksdale	55	201
Clay City	78	837
Clayton	40	942
Clifford	93	325
Clifton	33	634
*Clinton	47	5,165
Clintonville	12	515
Clyde	14	1,003
Coal City	20	2,667
Coatsburg	40	262
Cobden	96	988
Coffeen	64	980
Colchester	35	1,445
Coleta	8	302
Colfax	38	965
Collinsville	69	7,478
Collison	50	252
Colona	16	217
Columbia	81	2,076
Colusa	34	202
Como	8	202
Compton	10	387
Congress Park	14	301
Cooksville	38	332
Cooperstown	42	202
Cordova	15	324
Cornell	31	536
Cortland	11	207
Coulterville	87	949
Cowden	65	711
Crab Orchard	93	201
Craig	88	250
Crainville	93	446
Creal Springs	93	936
Crescent City	33	341
Creston	9	323
Crete	21	840
Cropsey	38	250
Crossville	91	573
Crotty	18	1,005
Crystal Lake	5	1,242
Cuba	36	2,019
Cullom	31	579
Cutler	88	324
Cypress	97	311
D		
Dahlgren	90	654
Dakota	2	227
Dallas City	31	1,288
Dalton City	57	403
Dalzell	17	949
Dana	18	254
Danforth	33	410
Danvers	38	593
*Danville	50	27,871
Darmstadt	75	403
Darwin	68	207
Davis	2	352
Davis Junction	9	254
Dawson	54	630
Dayton	18	301
*Decatur	56	31,140
Deer Creek	37	332
Deerfield	6	476
De Kalb	11	8,102
De Land	48	503
Delavan	37	1,175
De Long	25	330
Denver	34	202
Depue	17	1,339
De Soto	92	644
Des Plaines	14	2,348
Dewitt	47	220
Dewmaine	93	913
Diamond	20	255
Dietrich	72	494
Divernon	54	1,519
Dix	83	202
*Dixon	10	7,216
Dolton	14	1,809
Dongola	96	702
Donnellson	64	405
Donovan	33	346
Doran	66	402
Dorrisville	94	1,184
Douglas Park	14	302
Dow	62	253
Downers Grove	13	2,601
Downs	38	301
Dubois	82	351
Dundas	79	224
Dundee	12	3,002
Dunfermline	36	501
Dupo	75	433
Duquoin	88	5,454
Durand	3	527
Dwight	31	2,156
E		
Earlville	18	1,059
East Alton	69	584
East Brooklyn	20	446
East Carondolet	75	212
East Dubuque	1	1,253
East Dundee	12	1,405
East Galesburg	25	753
East Lynn	50	301
East Moline	15	2,665
Easton	44	407
East Peoria	37	1,494
East St. Louis	75	58,557
East Wenona	18	367
E. Wood River	69	401
Eaton	74	351
Edgar	59	202
Edgewood	72	419
Edinburg	55	918
Edison	14	543
Edwards	27	211
*Edwardsville	69	5,014
*Effingham	72	3,898
Eileen	20	677
Elburn	12	613
Elco	100	201
Eldorado	94	3,365
Eldred	61	241
Elgin	12	25,975
Elizabeth	1	703
*Elizabethtown	99	633
Elkhart	46	418
Elkton	82	201
Elkville	92	732
Elliott	39	371
Ellisgrove	87	252
Ellisville	36	218
Ellsworth	38	213
Elmhurst	13	2,361
Elmwood	27	1,391
El Paso	30	1,470
Elsah	62	257
Elvaston	34	251
Elwood	21	211
Emden	46	411
Enfield	91	927

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Illinois Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Equality	95	1,181
Erie	8	803
Esmond	11	252
Essex	32	342
*Eureka	30	1,525
Evanston	14	24,978
Evansville	87	562
Evergreen Pk.	14	424
Ewing	89	317
Exeter	52	201

F

Towns	Loca.	Pop.
Fairbury	31	2,505
Fairdale	11	201
*Fairfield	84	2,479
Fairland	58	251
Fairmount	50	847
Fairview	36	482
Fairview Landing	98	201
Fair Weather	40	201
Fancher	65	215
Farina	71	774
Farmer City	47	1,603
Farmersville	64	533
Farmington	36	2,421
Fayetteville	75	228
Ferris	34	299
Fiatt	36	251
Fidelity	62	211
Fieldon	62	227
Fillmore	64	499
Findlay	65	827
Fisher	49	851
Fithian	50	386
Flanagan	31	591
Flat Rock	74	841
Flora	78	2,704
Floraville	75	304
Foosland	49	301
Fordville	93	385
Fordyce	92	392
Forest City	44	306
Forest Park	14	6,594
Forrest	31	967
Forreston	9	871
Forsyth	56	201
Fort Sheridan	6	601
Fountain Green	34	252
Fox Lake	6	401
Frankfort	21	275
Franklin	53	696
Franklin Grove	10	572
Franklin Park	14	683
Frederick	41	301
Freeburg	75	1,397
*Freeport	2	17,567
French Village	75	1,001
Friendgrove	86	301
Fullersburg	13	500
Fulton	8	2,174

G

Towns	Loca.	Pop.
Galatia	94	745
Gale	100	202
*Galena	1	4,835
*Galesburg	25	22,089
Galva	16	2,498
Garden Prairie	4	201
Gardner	20	946
Garrett	58	291
Gary	14	201
Gaskins City	94	685
Gays	57	322
Geff	84	286
Geneseo	16	3,199
*Geneva	12	2,451
Genoa	11	1,257
Georgetown	50	2,307
Germantown	76	711
German Valley	2	231
Gibson City	39	2,086
Gifford	49	501
Gilberts	12	268
Gillespie	63	2,241
Gilman	33	1,305
Gilson	25	201
Girard	63	1,891
Gladstone	23	385
Glasgow	52	315
Glenarm	54	201
Glen Carbon	69	1,221
Glencoe	14	1,899
Glen Ellyn	13	1,763
Glenview	14	652
Glenwood	14	581
*Golconda	98	1,088
Golden	40	579
Goldengate	84	311
Golf	14	501
Goodenow	21	201
Good Hope	35	361
Goreville	97	551
Grafton	62	1,116
Grand Chain	101	451
Grand Detour	9	302
Grand Ridge	18	403
Grand Tower Junction	92	873
Grandview	59	205
Granite City	69	9,903
Grant Park	32	692
Grantsburg	97	302
Granville	28	1,391
Grape Creek	50	610
Graymount	31	1,201
Grayslake	6	603
Grayson	94	201
Grayville	91	1,941
Greenfield	61	1,161
Greenup	67	1,224
Green Valley	37	401
Greenview	45	921
*Greenville	70	3,178
Gridley	38	752
Griggsville	51	1,262
Grossdale	14	2,201
Gross Point	14	1,008
Groveland	37	203
Hallidayboro	92	252
Hamburg	60	335
Hamilton	34	1,627
Hamletsburg	98	215
Hammond	48	492
Hampshire	12	697
Hampton	15	348
Hanna City	27	453
Hanover	1	653
*Hardin	60	654
*Harrisburg	94	5,309
Harristown	56	203
Hartsburg	46	351
Harvard	5	3,008
Harvel	64	396
Harvey	14	7,227
*Havana	44	3,525
Hawthorne	14	2,001
Hazel Crest	14	401
Hazel Dell	67	201
Hebron	5	644
*Hennepin	28	451
Henning	50	364
Henry	29	1,687
Herrick	65	618
Herron	93	6,861
Herscher	32	461
Hettick	63	306
Heyworth	38	681
Highland	69	2,675
Highland Park	6	4,209
Highwood	6	1,219
Hillery	50	351
*Hillsboro	64	3,424
Hillsdale	15	250
Hillside	14	328
Hillview	61	309
Hinckley	11	651
Hindsboro	58	498
Hinsdale	13	2,451
Hodgkins	14	481
Hollowayville	17	251
Homer	49	1,086
Homewood	14	713
Hoopeston	50	4,698
Hopedale	37	585
Hoyleton	82	451
Hubbard Woods	14	301
Hudson	38	375
Huey	76	205
Hull	51	541
Humboldt	66	355
Hume	59	572
Humrick	50	201
Huntley	5	773
Hurst	93	345
Hutsonville	74	722

I

Towns	Loca.	Pop.
Illiopolis	54	849
Ina	83	484
Indianola	50	365
Industry	35	581
Ingraham	78	201
Iowa Junction	27	1,201
Ipava	36	652
Iroquois	33	285
Irving	64	678
Irvington	82	223
Irwin	32	202
Isabel	59	225
Itasca	13	333
Iuka	77	361
Ivesdale	49	429

J

Towns	Loca.	Pop.
*Jacksonville	53	15,386
Janesville	67	301
Jeffersonville	84	237
*Jerseyville	62	4,113
Jessie	59	366
Johnsburg	5	501
Johnsonville	84	225
Johnson City	93	3,248
*Joliet	21	34,671
*Jonesboro	96	1,169
Joppa	102	733
Joy	22	516
Junction	95	301

K

Towns	Loca.	Pop.
Kampsville	60	506
Kangley	18	381
*Kankakee	32	13,986
Kansas	59	945
Karbers Ridge	99	301
Karnak	101	251
Kasbeer	17	201
Keenes	84	221
Keensburg	86	404
Keithsburg	22	1,515
Kell	77	251
Kempton	39	269
Kenilworth	14	881
Kenney	47	571
Kewanee	16	9,307
Keyesport	76	671
Kilbourne	44	424
Kinderhook	51	371
Kingston	11	295
Kingston Mines	27	492
Kinmundy	77	997
Kinsman	20	219
Kirkland	11	685
Kirksville	57	251
Kirkwood	24	925
Knoxville	25	1,818
Kolze	14	501

L

Towns	Loca.	Pop.
La Clede	71	201
*Lacon	29	1,495
Ladd	17	1,911
La Fayette	26	287
La Grange	14	5,282
Lagrange Park	14	1,131
La Harp	34	1,348
Lake Bluff	6	726
Lake City	57	201
Lake Forest	6	3,349
Lake Villa	6	342
Lake Zurich	6	304
Lambert	14	221
Lamoille	17	555
Lanark	7	1,175
Lancaster	86	201
Lane	47	202
Lansing	14	1,061
La Place	48	301
La Rose	29	415
La Salle	18	11,537
Latham	46	438
*Lawrenceville	80	3,235
Leaf River	9	469
Lebanon	75	1,907
Ledford	94	599
Lee	10	303
Lee Center	10	245
Leland	18	545
Lemont	14	2,283
Lena	2	1,168
Lenz	75	200
Lenzburg	75	463
Leonore	18	203
Lerna	66	391
Le Roy	38	1,702
*Lewistown	36	2,312
Lexington	38	318
Liberty	40	499
Libertyville	6	1,724
Lima	40	797
Limerick	17	450
*Lincoln	46	10,891
Lindenwood	9	301
Litchfield	64	5,971
Littleton	41	301
Little York	24	358
Livingston	69	1,002
Loami	54	531
Lockport	21	2,555
Loda	33	603
Lombard	13	883
London Mills	36	555
Long Point	31	239
Longview	49	257
Loraine	40	417
Lostant	18	458
*Louisville	78	671
Lovejoy	75	1,501
Lovington	57	1,011
Ludlow	49	305
Lyndon	8	391
Lyons	14	1,483

M

Towns	Loca.	Pop.
McClure	100	301
McConnell	2	251
McHenry	5	1,031
McLean	38	707
*McLeansboro	90	1,796
Macedonia	90	285
Mackinaw	37	725
*McComb	35	5,775
Macon	56	683
Madison	69	5,046
Maeys	81	284
Magnolia	28	368
Mahomet	49	561
Makanda	92	401
Malden	17	255
Malta	11	451
Manchester	52	481
Manhattan	21	443
Manito	44	696
Manlius	17	218
Mansfield	48	681
Manteno	32	1,229
Maple Park	12	389
Maquon	25	472
Marengo	5	1,936
Marietta	36	328
Marine	69	685
*Marion	93	7,193
Marissa	75	2,014
Mark	28	1,125
Maroa	56	1,161
Marquette	17	494
Marseilles	18	3,291
*Marshall	68	2,569
Martinsville	68	1,501
Martinton	33	312
Marysville	50	742
Maryville	69	729
Mascoutah	75	2,181
Mason	72	345
Mason City	44	1,842
Matteson	14	461
Mattoon	66	11,456
Maunie	91	512
Maywood	14	8,033
Mazon	20	471
Mechanicsburg	54	417
Media	23	226
Medora	63	444
Melrose Park	14	4,801
Melvin	39	509
Mendon	40	611
Mendota	18	3,806
Meredosia	53	951
Metamora	30	694
Metcalf	59	449
*Metropolis	102	4,655
Middlegrove	36	201
Middletown	46	751
Midland City	47	201
Milan	15	727
Milford	33	1,316
Millcreek	96	221
Milledgeville	7	631
Millersburg	22	417
Millington	19	223
Mill Shoals	91	701
Millstadt	75	1,141
Milmine	48	211
Milton	51	331
Mineral	17	349
Minier	37	691
Minonk	30	2,070
Minooka	20	361
Mitchellsville	94	201
Modesto	63	298
Mokena	21	359
Moline	15	24,199
Momence	32	2,201
Monee	21	411
*Monmouth	24	9,128
Monroe Center	9	251
Montgomery	12	371
*Monticello	48	1,981
Montrose	72	349
Morgan Park	14	3,694

Illinois Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Moro	69	201
*Morris	20	4,563
*Morrison	8	2,412
Morrisonville	55	1,126
Morton	37	1,009
Morton Grove	14	836
Morton Park	14	1,001
*Mound City	101	2,837
Mounds	101	1,686
Mount Auburn	55	463
*Mount Carmel	86	6,934
*Mount Carroll	7	1,759
Mount Erie	84	299
Mount Forest	14	478
Mt. Greenwood	14	276
Mount Morris	9	1,132
Mount Olive	63	3,501
Mount Pulaski	46	1,511
*Mount Sterling	42	1,986
Mount Vernon	83	8,007
Mount Zion	56	331
Moweaqua	65	1,513
Mozier	60	301
Mulberry Grove	70	716
Mulkeytown	89	251
Muncie	50	253
Murdock	58	350
*Murphysboro	92	7,485
Murayville	53	451
N		
Nameoki	69	200
Naperville	13	3,449
Naples	52	457
*Nashville	82	2,135
National City	75	253
National Stock Yards	75	1,200
Nauvoo	34	1,020
Nebo	51	520
Neoga	67	1,074
Neponset	17	542
New Athens	75	1,131
New Baden	76	1,372
New Bedford	17	250
New Berlin	54	690
New Boston	22	718
New Burnside	97	369
New Canton	51	473
New Douglas	69	499
New Grand Chain	101	490
Newhaven	95	514
New Holland	46	387
New Lenox	21	200
Newman	58	1,264
New Memphis	76	243
Newmilford	3	200
New Minden	82	245
New Philadelphia	35	300
New Salem	51	260
*Newton	73	2,018
New Windsor	22	473
Niantic	56	685
Niles	14	569
Niles Center	14	568
Nilwood	63	401
Noble	79	618
Nokomis	64	1,872
Nora	1	251
Normal	38	4,024
Norris	36	560
Norris City	91	1,055
North Aurora	12	352
North Chicago	6	3,306
N. Chillicothe	27	911
North Crystal Lake	5	689
N. Henderson	22	200
North Utica	18	976
Nunda	5	750
O		
Oakford	45	317
Oakglen	14	200
Oakland	66	1,159
Oaklawn	14	287
Oak Park	14	19,444
Oakwood	50	423
Oblong	74	1,482
Oconee	65	293
Odell	31	1,435
Odin	77	1,400
O'Fallon	75	2,018
Ogden	49	428
Oglesby	18	3,500
Ohio	17	527
Ohlman	64	200
Okawville	82	579
Old Marissa	75	349
Olmsted	101	283
*Olney	79	5,011
Omaha	95	586
Onarga	33	1,273
Oneida	25	589
*Oquawka	23	907
Orangeville	2	370
*Oregon	9	2,180
Orion	16	655
Orland	14	369
Oswego	19	600
*Ottawa	18	9,535
Owaneco	55	365
P		
Palatine	14	1,144
Palestine	74	1,399
Palmer	55	404
Palmyra	63	873
Palos Park	14	300
Pana	55	6,055
Panama	64	908
*Paris	59	7,664
Parker	97	250
Parkersburg	79	238
Park Ridge	14	2,009
Parrish	89	250
Patoka	77	676
Patterson	61	200
Pawnee	54	1,399
Pawpaw	10	709
*Paxton	39	2,912
Payson	40	467
Pearl	51	842
Pearl City	2	485
Pecatonica	3	1,022
*Pekin	37	9,897
Penfield	49	300
*Peoria	27	66,956
Peoria Heights	27	582
Peotone	21	1,207
Percy	87	1,033
Perry	51	649
Peru	18	7,984
Pesotum	49	376
*Petersburg	45	2,589
Philadelphia	43	550
Philo	49	562
Phoenix	14	679
*Pinckneyville	88	2,722
Piper City	39	663
Pistakee	16	500
Pittsburg	93	227
*Pittsfield	51	2,095
Pittwood	33	300
Plainfield	21	1,019
Plainville	40	251
Plano	19	1,627
Pleasant Hill	51	576
Pleasant Mound	70	200
Pleasant Plains	54	625
Plumfield	89	200
Plum River	1	200
Plymouth	34	829
Pocahontas	70	749
Polo	9	1,828
*Pontiac	31	6,090
Pontoosuc	34	285
Poplar Grove	4	297
Port Byron	15	642
Porterville	74	200
Portland	89	3,194
Portland	18	3,500
Posen	14	343
Potomac	50	800
Pottstown	27	300
Prairie City	35	719
Prairie du Rocher	87	511
Preemption	22	250
*Princeton	17	4,131
Princeville	27	785
Prophetstown	8	1,083
Pulaski	101	592
Putnam	28	240
Q		
*Quincy	40	36,589
R		
Radom	82	305
Raleigh	94	238
Ramsey	71	769
Rankin	50	858
Ransom	18	370
Rantoul	49	1,384
Rapatee	25	200
Rardin	66	250
Raritan	23	931
Ravinia	6	500
Ray	41	200
Raymond	64	881
Red Bud	87	1,240
Reddick	32	288
Redmon	59	240
Reeves	93	658
Renault	81	241
Reno	70	200
Reynolds	15	367
Richmond	5	554
Richview	82	366
Ridge Farm	50	967
Ridgefield	5	200
Ridge Prairie	75	360
Ridgeway	95	1,054
Ringwood	5	300
Rio	25	300
Ripley	42	234
Riverdale	14	917
River Forest	14	2,456
River Grove	14	418
Riverside	14	1,702
Riverton	54	1,911
Riverview	14	312
Roanoke	30	1,311
Roberts	39	466
*Robinson	74	3,863
Rochelle	9	2,732
Rochester	54	414
Rock	98	288
Rockbridge	61	275
Rockdale	21	1,101
Rockefeller	6	358
Rock Falls	8	2,657
*Rockford	3	45,401
*Rock Island	15	24,335
Rockport	51	204
Rockton	3	841
Rollins	6	200
Rome	27	233
Roodhouse	61	2,171
Roscoe	3	500
Rose Hill	73	229
Roselle	13	400
Rosemond	55	300
Roseville	24	882
Rosiclare	99	609
Rossville	50	1,422
Royalton	89	357
Rozetta	24	200
*Rushville	41	2,442
Russellville	80	257
Rutland	18	754
S		
Sadorus	49	336
Sailor Springs	78	388
Saint Anne	32	1,065
Saint Charles	12	4,046
Saint David	36	915
Saint Elmo	71	1,227
Sainte Marie	73	450
St. Francisville	80	1,391
Saint Jacob	69	534
Saint John	88	378
Saint Joseph	49	681
Saint Libory	75	328
Saint Peter	71	313
*Salem	77	2,669
Sandoval	77	563
Sandusky	100	1,500
Sandwich	11	2,577
San Jose	44	446
Saunemin	31	357
Savanna	7	3,691
Sawyersville	63	445
Saybrook	38	805
Scales Mound	1	388
Schram City	64	516
Scottland	59	400
Scottville	63	301
Sears	15	236
Seaton	22	326
Seatonville	17	1,370
Secor	30	358
Seneca	18	1,100
Sesser	89	1,292
Seymour	49	220
Shabbona	11	594
Shannon	7	633
*Shawneetown	95	1,863
Sheffield	17	1,009
*Shelbyville	65	3,590
Sheldon	33	1,453
Sheridan	18	506
Shermerville	14	440
Sherrard	22	906
Shetlerville	99	200
Shiloh Valley	75	395
Shipman	63	392
Shobonier	71	306
Shumway	72	291
Sibley	39	385
Sidell	50	741
Sidney	49	481
Sigel	65	308
Silvis	15	1,163
Sims	84	399
Smithboro	70	309
Smithfield	36	389
Smithshire	24	250
Smithton	75	380
Somonauk	11	591
Sorento	70	1,018
South Beloit	3	600
South Chicago Heights	14	552
South Elgin	12	580
South Heights	15	250
South Holland	14	1,065
S. Wilmington	20	2,043
Sparland	29	461
Sparta	87	3,081
Spaulding	54	308
Spillertown	93	249
Springerton	91	418
Springfield (capitol)	54	51,678
Springforest	14	334
Spring Garden	83	227
Spring Grove	5	203
Spring Valley	17	7,035
Standard	28	793
Stanford	38	525
Staunton	63	5,048
Steeleville	87	708
Steelton	50	300
Steger	21	2,161
Sterling	8	7,467
Steward	10	353
Stewardson	65	720
Stillman Valley	9	400
Stillwell	34	250
Stockton	1	1,096
Stonefort	94	500
Stonington	55	1,118
Stoy	74	488
Strasburg	65	526
Strawn	31	277
Streator	18	14,253
Stronghurst	23	762
Sublette	10	287
*Sullivan	57	2,621
Summerfield	75	337
Summit	14	949
Summum	36	200
Sumner	80	1,413
Swansea	75	889
*Sycamore	11	3,962
T		
Table Grove	36	544
Taft	28	400
Tallula	45	742
Tamaroa	88	910
Tamms	100	410
Tampico	8	849
Taylor Springs	64	380
*Taylorville	55	5,446
Techny	14	325
Tennessee	35	274
Tessville	14	359
Teutopolis	72	592
Thackery	90	200
Thawville	33	318
Thayer	54	1,012
Thebes	100	717
Thomas	17	200
Thomasboro	49	321
Thompsonville	89	573
Thomson	7	487
Thornton	14	1,030
Tice	45	200
Ticona	18	497
Tilden	87	774
Tilton	50	710
Timewell	42	219
Tinley Park	14	304
Tioga	34	300
Tiskilwa	17	857
*Toledo	67	900
Tolono	49	760
Toluca	29	2,407
Tonica	18	483
Torino	21	510
*Toulon	26	1,208
Towanda	38	404
Tower Hill	65	1,040

A Great State Rich in Manufacturing and Agriculture

Towns	*Loca.*	*Pop.*
Tremont	37	782
Trenton	76	1,694
Trilla	66	260
Troy	69	1,447
Troy Grove	18	289
*Tuscola	58	2,453
U		
Ullin	101	670
Union	68	450
Union	5	432
Union Hill	32	250
Unionville	102	300
Upper Alton	69	2,918
*Urbana	49	8,245
Utica	18	1,500
V		
Valley	51	800
*Vandalia	71	2,974
Varna	29	403
Venice	69	3,718
Vergennes	92	342
Vermilion	59	238
Vermilion Grove	50	200
Vermont	36	1,118
Vernon	77	333
Verona	20	300
Versailles	42	557
Victoria	25	334
*Vienna	97	1,124
Villa Grove	58	1,828
Villa Ridge	101	500
Viola	22	760
Virden	63	4,001
*Virginia	43	1,501
W		
Waggoner	64	273
Waldron	32	261
Walnut	17	763
Wann	69	525
Wapella	47	498
Warren	1	1,331
Warrensburg	56	504
Warsaw	34	2,254
Washburn	30	777
Washington	37	1,531
Wasson	94	352
Wataga	25	444
*Waterloo	81	2,091
Waterman	11	398
Watertown	15	525
*Watseka	33	2,476
Watson	72	332
Wauconda	6	368
*Waukegan	6	16,069
Waverly	53	1,538
Wayne	13	620
Wayne City	84	800
Waynesville	47	546
Wedron	18	203
Weldon	47	521
Wellington	33	300
Wenona	29	1,442
West Batavia	12	5,000
West Brooklyn	10	266
West Chicago	13	2,378
West Dundee	12	1,382
Western Spgs	14	905
Westfield	68	927
West Frankfort	89	2,111
West Grossdale	14	300
West Hammond	14	4,948
West Liberty	73	214
Weston	38	262
West Point	34	292
West Salem	85	725
West Springfi'd	54	905
West Union	68	451
Westville	50	2,607
West York	74	300
Wetaug	101	218
Wethersfield	16	1,593
*Wheaton	13	3,423
Wheeler	73	255
Wheeling	14	261
Whiteash	93	353
White City	63	421
White Hall	61	2,850
White Heath	48	201
Williamsfield	25	482
Williamson	69	648
Williamsville	54	602
Willisville	88	1,082
Willow Hill	73	444
Wilmette	14	4,943
Wilmington	61	204
Wilmington	21	1,450
*Winchester	52	1,639
Windsor	65	987
Windsor	22	660
Winnebago	3	415
Winnetka	14	3,158
Winslow	2	426
Winthrop Harbor	6	439
Witt	64	2,170
Woburn	70	252
Woodhull	16	692
Woodland	33	295
Woodlawn	83	315
Woodson	53	257
*Woodstock	5	4,341
Worden	69	1,082
Worth	14	203
Wrights	61	202
Wyanet	17	872
Wyoming	26	1,506
X		
Xenia	78	634
Y		
Yates City	25	586
*Yorkville	19	431
Z		
Zeigler	89	503
Zion City	6	4,789

ILLINOIS

OPPORTUNITIES IN AGRICULTURAL AND VARIED ENTERPRISES

The Immense Natural Resources of the State

In a study of comparisons between the different states, the land-seeker, for profitable investment, discovers he need not go beyond the boundaries of Illinois.

HUNDREDS OF YEARS

Although much of the state is undulating, excepting Louisiana and Delaware, this is the most level of any state in the Union. Not only is it level but a large share of its area is covered by prairie, where, for hundreds of years, vegetation has sprung into existence, ripened, fallen back, decayed and returned to enrich the earth, making a soil of dark rich vegetable mold, in many places on the river bottoms, twenty-five feet in thickness, a soil on which various crops can be grown successively for many years without losing its strength.

CENTER OF FARMS

That the central location and fertility of this soil is fully understood is shown in the fact that so much agricultural development centers in this state. To illustrate: By a late United States Census the center of farms was near Fairfield, Wayne county, Ill. The **center of value** of farm property was ten miles north of Jacksonville, Morgan county, and the center of corn production was thirty miles directly south of Jacksonville.

By government agricultural report of 1906, the value of corn, which **exceeded** every other state, was $124,931,051. The next largest was Iowa, $119,448,000. The third largest was Texas, $77,902,391.

AVERAGE CORN CROP

The average crop of corn in the United States is twenty-seven bushels to the acre, the average in the corn belt of Illinois is forty-five bushels to the acre. Dr. C. S. Hopkins, head of the department of agronomy at the University of Illinois, asserts that it is **possible to increase** this average not only to seventy-two, but to eighty bushels an acre. Many scientific farmers raise eighty bushels to the acre and even **110 bushels** by increasing the nourishment in the soil which the corn plant requires for its development.

IMMENSE COAL AREA

Next to Pennsylvania, Illinois is the largest producer of coal. Her coal area covers 45,000 square miles. The Illinois coal output in 1906 was 37,183,374 tons.

COMFORTABLE WEATHER

Owing to absence of mountains, the state is exposed to winds which in winter blow chiefly from the north and northwest, making the climate severe. During the rest of the year, the winds come from the south and southwest. The summers are exceedingly hot, south of Springfield, Sangamon county, but the prevailing breeze in warm weather cools the atmosphere to the point of comfort.

At Cairo, the extreme southern part of the state, the average temperature is 58½ degrees.

FIELD FOR FRUITS

The mild climate and abundant rainfall in the southern part of the state, combined with accessibility to several excellent markets, have caused this region to be **selected by horticulturists** as a natural field for the growing of strawberries, peaches, melons and other fruit which ripen considerably earlier than in northern regions of the state.

MANUFACTURING CENTER

Excepting New York and Pennsylvania, Illinois, young as is the state, excels all other states in manufacturing. There is a natural reason for this: First, the **wonderously fertile** soil produces food most cheaply here. Second, the vast area here of coal-beds **supply cheap fuel** for the production of power. Third, the many streams furnish means for the development of **electric power** while the 4,000 miles of navigable rivers outside of Lake Michigan permit of cheap transportation to the markets of the country.

SHIP CANAL

Added to this there is coming probably deep water navigation from Lake Michigan to the Gulf of Mexico, and **all parts** of the world by way of the Chicago drainage canal, the Illinois and Mississippi Rivers and the Panama Canal.

FUTURE LAND VALUES.

Compared with other parts of the United States, the value of farm lands in Illinois, ranging in price from $30 to $150 per acre, may seem high, but the land-seeker will take **several things** into account.

NATURAL OPPORTUNITIES

Among them are **ease** of cultivating the soil, **relief** from expense of fertilizing, **accessibility** to markets by water navigation, and thousands of miles of railroad at present in Illinois, which bring nearly every farm in the state within ten miles of a railway line.

Illinois Opportunities in Agriculture and Varied Enterprises

INTENSIVE FARMING

The density of population here was, by late census, 100 persons to the square mile. There were 418 inhabitants to the square mile in Massachusetts and 508 in Rhode Island. Certainly the advantages offered for the acquisition of a living are **as great here** as in any eastern state, and it is plainly evident that this state will be as thickly settled. **When that time** comes, there will be three times more people here than now. Then large farms will be cut into small tracts, intensive farming will be general, as the forty-acre tract will yield as much profit as does the one hundred and sixty-acre farm today.

With increased density of population, there will be increased demand for land, and corresponding **advance** in price.

KEEP UP THE PRICE OF LAND

If at times there is **more foodstuff** than is temporarily required, there exists the certainty that the **land will always** give a support and can be depended upon to furnish a living. The article manufactured is liable to depreciation in various ways. It may be superseded by something better; it may get **out of style**; may be worn out; may be stolen or consumed by fire.

Not so with land. Unless destroyed by some convulsion of Nature, it is steadily **right there,** just so much and no less, ready to produce and steadily yield wealth in the future.

SAFE TO BUY LAND

Thus, in any locality, or state, where soil is fertile, the climate favorable, the educational facilities and markets accessible, all of which abundantly favor Illinois, it is entirely **safe and wise** to invest at the going prices in suburban and farm land.

ANNUAL WEALTH OF ILLINOIS

Soil Products, 1906	**Value.**
Corn, *36c	$124,981,051
Oats, *34c	33,406,685
Hay, per ton, $12.50	32,315,925
Wheat, *72c	26,589,771
Potatoes, *62c	9,059,369
Rye, *56c	612,364
Barley, *42c	318,755
Tobacco	61,705
Buckwheat	53,965

Live Stock, Jan. 1, 1907.	**Value.**
Horses, †$93	$171,990,000
Common cattle	49,238,170
Milch cows, †$35	40,652,500
Swine, †$7.62	37,377,522
Mules, †$112	16,668,630
Sheep, †$5.20	4,041,293

Manufactures, 1906.	**Value.**
Including custom work and repairs	$1,410,342,129
Capital employed	975,844,799
Wages paid	208,405,468

Minerals, 1905.	**Value.**
Coal, ‡$1.06	$40,577,592
Pig iron (estimated)	37,040,000
Clay products	12,361,786
Zinc	5,499,508
Stone	3,541,005
Illuminating gas	1,912,868
Portland cement	1,741,150
Sand and gravel	547,167
Gas coke	487,772
Lime	421,589
Flourspar	220,206
Glass sand	146,605
Clay	120,410
Petroleum	116,561
Natural cement	116,549
Coal tar	49,714
Mineral waters	47,995
Coke	27,681
Ammonium sulphate	22,956
Natural gas	7,223
Other products, including slag, cement and sand lime brick	59,230
Total, minerals	$105,065,567

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*Farm price per bushel in Illinois.

†Farm price per head in Illinois.

‡Price of coal per ton at the mines.

PRICES AND VALUES.

The reader should understand that prices of agricultural and mineral products vary with different years. The prices of 1906-7 are the average. Causes may make prices more or less in later years.

POULTRY, EGGS AND BUTTER

In the foregoing detail of the various sources of wealth in Illinois we have made **no mention** of the millions of dollars of revenue that annually come from poultry, eggs, butter, cream and milk. No figures are here given of the **vast yield** of garden vegetables, apples, melons and small fruits. No statistics have been given here of the thousands of **conservatories** that send their cut flowers hundreds of miles in all directions.

MUCH MORE TO BE SAID

In short, our omissions of the products of this fertile state easily run up into the many millions.

Agriculture: 42,000 square miles adapted to growth of grains; ranks high in production of oats, winter wheat in South and Southwest part of the state; central portion of the state for corn and sugar beets. Land-seekers get full information as to soils of the state at the State University, Urbana, Ill.

Area: Length, 385 miles; breadth, 218 miles.

Altitude: Highest elevation in Jo Daviess county, 1,150 feet; average of the state, 350 feet above sea level. Length of Mississippi River on west side, 700 miles. Coast line of Lake Michigan, on east side of Illinois, 60 miles.

CONDENSED FACTS RELATING TO ILLINOIS.

History 1680. First white settlement made by Sieur de La Salle, who built a small fort at the foot of Lake Peoria.

1809. Illinois Territory organized, comprising land now included in Illinois, Wisconsin, and part of Michigan.

1811. First schoolhouse in the state built at Shiloh, St. Clair County.

1818. State admitted to the Union. First general assembly met at Kaskaskia.* Seat of government removed to Vandalia.

1820. Census showed 55,162 inhabitants in the state.

1825. State law passed establishing common public schools.

1826. Stage route established between Springfield and Chicago. First steamboat on the Illinois River.

1832. Blackhawk war and cholera epidemic.

1837. Pro-slavery sentiment at Alton resulted in mob riot and death of Elijah P. Lovejoy.

1844. Mormon riots and death of Joseph Smith.

1851. Illinois Central Railroad incorporated under laws of the state.

1858. Famous debate by Lincoln and Douglas.

Waterways. The Illinois River, length 350 miles, rises in Grundy County and empties into the Mississippi River at Grafton, Jersey County, 20 miles above Alton, and 40 miles above St. Louis.

DRAINAGE CANAL.

The main channel of the Chicago drainage canal is 28.05 miles long and 22 feet deep. Southward from its terminus, near Joliet, it is designed that the ship canal, connecting the Great Lakes and the Mississippi River, shall much of its length, follow the route of the Illinois River. (See route of this proposed canal on our map of Illinois.)

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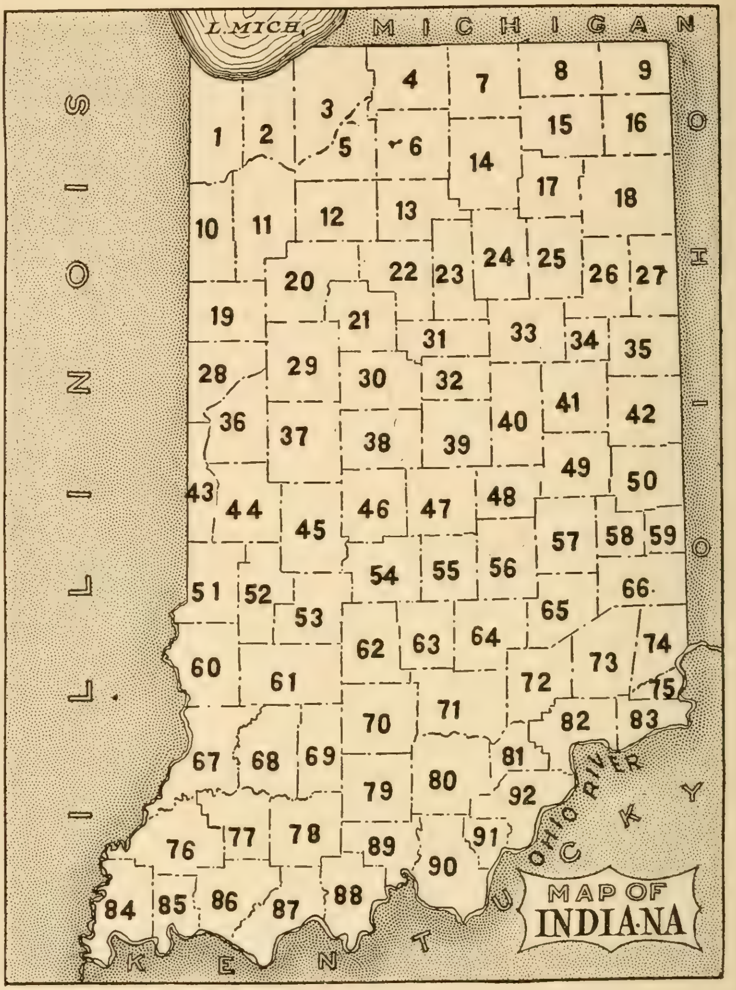
*Kaskasia is a small village in southwestern part of Randolph County. See County 87.

STATE AND THE 92 COUNTIES OF INDIANA

With Their Boundaries



Location and Population of INDIANA COUNTIES

Location	COUNTIES	Pop. 1910
1	Lake	82,864
2	Porter	20,540
3	La Porte	45,797
4	St. Joseph	84,312
5	Starke	10,567
6	Marshall	24,175
7	Elkhart	49,008
8	La Grange	15,148
9	Steuben	14,274
10	Newton	10,504
11	Jasper	13,044
12	Pulaski	13,312
13	Fulton	16,879
14	Kosciusko	27,936
15	Noble	24,009
16	De Kalb	25,054
17	Whitley	16,892
18	Allen	92,386
19	Benton	12,688
20	White	17,602
21	Carroll	17,970
22	Cass	36,368
23	Miami	29,350
24	Wabash	26,926
25	Huntington	28,982
26	Wells	22,418
27	Adams	21,840
28	Warren	10,899
29	Tippecanoe	40,063
30	Clinton	26,674
31	Howard	33,177
32	Tipton	17,459
33	Grant	51,426
34	Blackford	15,820
35	Jay	24,961
36	Fountain	20,439
37	Montgomery	29,296
38	Boone	24,673
39	Hamilton	27,026
40	Madison	65,224
41	Delaware	51,414
42	Randolph	29,013
43	Vermilion	18,865
44	Parke	22,214
45	Putnam	20,520
46	Hendricks	20,840
47	Marion	263,661
48	Hancock	19,030
49	Henry	29,958
50	Wayne	43,757
51	Vigo	87,930
52	Clay	32,535
53	Owen	14,053
54	Morgan	21,182
55	Johnson	20,394
56	Shelby	26,802
57	Rush	19,349
58	Fayette	14,415
59	Union	6,260
60	Sullivan	32,439
61	Greene	36,873
62	Monroe	23,426
63	Brown	7,975
64	Bartholomew	24,813
65	Decatur	17,893
66	Franklin	15,385
67	Knox	39,183
68	Daviess	27,747
69	Martin	12,950
70	Lawrence	30,625
71	Jackson	24,727
72	Jennings	14,203
73	Ripley	19,452
74	Dearborn	21,396
75	Ohio	4,329
76	Gibson	30,137
77	Pike	19,684
78	Dubois	19,843
79	Orange	17,192
80	Washington	17,445
81	Scott	8,323
82	Jefferson	20,483
83	Switzerland	9,914
84	Posey	21,670
85	Vanderburg	77,438
86	Warrick	21,911
87	Spencer	20,676
88	Perry	18,078
89	Crawford	12,057
90	Harrison	20,232
91	Floyd	30,293
92	Clark	30,260
	Total	2,700,876

INDIANA TOWNS WITH 1910 POPULATIONS

Towns	Loca.	Pop.
A		
Acton	47	400
Adams	65	400
Advance	38	416
Akron	13	806
Alamo	37	209
Alaska	53	200
Albany	41	1,289
*Albion	15	1,213
Alert	65	250
Alexandria	40	5,096
Alfordsville	68	296
Altona	16	349
Ambia	19	359
Amboy	23	521
Amo	46	508
Amsterdam	90	280
*Anderson	40	22,476
Andersonville	66	325
Andrews	25	957
*Angola	9	2,613
Annapolis	44	240
Altoga	78	250
Arcadia	39	990
Arcola	18	375
Argos	6	1,088
Arlington	57	400
Arthur	77	409
Ashboro	52	206
Ashersville	52	400
Ashley	9	639
Atherton	51	300
Atlanta	39	876
Attica	36	3,335
Atwood	14	350
*Auburn	16	3,919

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of Indiana with 1910 Populations

Towns	*Loca.*	*Pop.*
Auburn Jct.	16	269
Augusta	77	250
Aurora	74	4,410
Austin	81	410
Avilla	15	579
Avoca	70	560
Ayrshire	77	308
B		
Bainbridge	45	449
Batesville	73	2,151
Battle Ground	29	443
Bean Blossom	63	227
*Bedford	70	8,716
Beach Grove	47	568
Belleville	46	308
Bellmore	44	390
Benton	7	208
Berne	27	1,316
Betheven	33	2,289
Bicknell	67	2,794
Bippus	25	350
Birdseye	78	439
*Bloomfield	61	2,069
Bloomingdale	44	528
*Bloomington	62	8,838
Blountsville	49	260
Blue Ridge	56	227
*Bluffton	26	4,987
Boggstown	56	209
*Boonville	86	3,934
Borden	92	425
Boswell	19	814
Boundary	35	209
Bourbon	6	1,163
Bowling Green	52	336
Bradford	90	260
*Brazil	52	9,340
Bremen	6	2,008
Briant	35	469
Bridgeport	47	406
Bridgeton	44	250
Brimfield	15	360
Bringhurst	21	400
Bristol	7	535
Broad Ripple	47	770
Bronson	42	309
Brook	10	1,067
Brookfield	56	308
Brooklyn	54	572
Brookston	20	907
*Brookville	66	2,169
Brownsburg	46	876
*Brownstown	71	1,492
Brownsville	59	306
Bruce Lake	13	350
Bruceville	67	460
Buck Creek	29	250
Buddha	70	309
Bunker Hill	23	668
Burket	14	408
Burlington	21	890
Burnettsville	20	489
Burney	65	205
Burns City	69	290
Butler	16	1,818
Butlerville	72	309
C		
Cadiz	49	209
Cambridge City	50	2,237
Camden	21	557
Cammack	41	220
Campbellsburg	80	666
Canaan	82	226
Cannelburg	68	306
*Cannelton	88	2,130
Canton	80	290
Carbon	52	493
Cardonia	52	580
Carlisle	60	850
Carmel	39	626
Carrollton	48	409
Cartersburg	46	360
Carthage	57	873
Catlin	44	280
Cayuga	43	911
Cedar Grove	66	389
Cedar Lake	1	402
Cementville	92	520
Center	31	360
Centerpoint	52	414
Centerton	54	360
Centerville	50	1,019
Chalmers	20	513
Charlestown	92	864
Charlottesville	48	450
Chesterfield	40	285
Chesterton	2	1,409
Chili	23	250
China	82	250
Chrisney	87	524
Churubusco	17	870
Cicero	39	990
Clarksburg	65	450
Clarkshill	29	463
Clarksville	92	2,743
Clarksville	39	208
Clay City	52	1,213
Claypool	14	408
Claysburg	92	380
Clayton	46	497
Clear Creek	25	220
Clearsprings	71	210
Clermont	47	205
Clifford	64	210
Clinton	43	6,229
Cloverdale	45	624
Coal Bluff	51	680
Coal City	53	380
Coalcreek	36	250
Coatesville	46	472
Cochran	74	960
Coesse	17	250
Colburn	29	302
Colfax	30	801
Collett	35	200
Coloma	44	260
*Columbia City	17	3,448
*Columbus	64	8,813
*Connersville	58	7,738
Converse	23	1,164
Cortland	71	260
Corunna	16	318
Cory	52	380
*Corydon	90	1,703
*Covington	36	2,069
Cowan	41	200
Coxville	44	408
Craigville	26	209
*Crawfordsville	37	9,371
Crisman	2	292
Cromwell	15	520
Crothersville	71	1,038
*Crown Point	1	2,526
Culver	6	810
Cumback	68	396
Cumberland	47	360
Cynthiana	84	610
D		
Dale	87	583
Daleville	41	624
Dana	43	748
*Danville	46	1,640
Darlington	37	780
Dayton	29	690
Decatur	27	4,471
Decker	67	806
Delaware	73	220
Delong	13	306
*Delphi	21	2,161
Demotte	11	250
Denver	23	990
Deputy	82	360
Diamond	44	1,070
Dickeyville	86	250
Dillsboro	74	425
Dover	74	280
Doverhill	69	389
Dublin	50	704
Dugger	60	1,226
Dundee	34	220
Dundee	40	220
Dunkirk	35	3,031
Dyer	1	560
E		
Eagletown	39	309
Earl Park	19	609
East Chicago	1	19,098
E. Connersville	58	706
East Gary	1	484
E. Germantown	50	302
Eaton	41	1,428
Eckerty	89	204
Economy	50	350
Edgerton	18	306
Edinburg	55	2,040
Edwardsport	67	670
Ehrmanndale	51	200
Elberfeld	86	438
Elizabeth	90	238
Elizabethtown	64	350
Elkhart	7	19,282
Ellettsville	62	788
Elnora	68	908
Elwood	40	11,028
Eminence	54	238
*English	89	649
Etna Green	14	450
Eugene	43	450
*Evansville	85	69,647
Ewing	71	2,500
F		
Fairfield	66	250
Fairland	56	513
Fairmont	33	2,506
Fair Oaks	11	350
Fairview Park	43	630
Farmersburg	60	1,115
Farmland	42	907
Ferdinand	78	827
Fishersburg	40	290
Flat Rock	56	460
Flora	21	1,386
Florence	83	250
Florida	40	280
Floyds Knobs	91	227
Folsomville	86	410
Fontanet	51	521
Forest	30	380
Fort Branch	76	1,182
Fortville	48	1,174
*Fort Wayne	18	63,933
Fountain City	50	448
*Fowler	19	1,491
Fowlerton	33	293
Francesville	12	729
Francisco	76	407
*Frankfort	30	8,634
*Franklin	55	4,502
Frankton	40	936
Fredericksburg	37	369
Fredericksburg	80	271
Freedom	53	306
Freeland Park	19	280
Freelandville	67	560
Freetown	71	306
Fremont	9	694
French Lick	79	1,803
G		
Galveston	22	658
Garrett	16	4,149
Gary	1	16,802
Gas City	33	3,224
Gaston	41	638
Geneva	27	1,140
Gentryville	87	383
Georgetown	91	331
Germantown	50	305
Gilman	40	520
Glenwood	57	226
Goldsmith	32	225
Goodland	10	1,105
*Goshen	7	8,514
Gosport	53	776
Grand View	87	735
Grantsburg	89	200
Grasscreek	13	260
Grasselli	1	280
*Greencastle	45	3,790
Greendale	74	697
*Greenfield	48	4,448
Greentown	31	1,166
Greenville	91	227
Greenwood	55	1,608
Greensboro	49	250
*Greensburg	65	5,420
Greens Fork	50	377
Griffin	84	275
Griffith	1	523
Guilford	74	250
Guthrie	70	260
Gwynneville	56	290
H		
Hagerstown	50	936
Hall	54	209
Hamilton	9	880
Hamlet	5	579
Hammond	1	20,925
Hanna	3	408
Hanover	82	356
Hardinsburg	80	254
Harlan	18	990
Harmony	52	1,020
Harrodsburg	62	460
*Hartford City	34	6,187
Hartsville	64	358
Hartwell Jct.	77	309
Hatfield	87	209
Haubstadt	76	560
Hayden	72	396
Haysville	78	260
Hazleton	76	648
Hebron	2	821
Hecla	17	290
Heltonville	70	690
Hemlock	31	306
Henryville	92	408
Herbst	33	250
Hessville	1	480
Hibbard	6	290
Highland	1	506
Hillisburg	30	306
Hillsboro	36	528
Hillsdale	43	290
Hoagland	18	396
Hobart	1	1,753
Hobbieville	61	298
Hobbs	32	290
Holland	78	380
Holton	73	275
Hope	64	1,223
Hortonville	39	290
Howe	8	820
Howell	85	2,080
Howesville	52	360
Hudson	9	390
Huntertown	18	490
Huntingburg	78	2,464
*Huntington	25	10,272
Hymera	60	1,515
I		
Idaville	20	560
Independence Station	28	500
Indiana Harbor	1	7,000
Indianapolis (capital)	47	233,650
Indian Springs	69	250
Ingalls	40	322
Inwood	6	300
Ireland	78	275
J		
Jackson Hill	60	360
Jamestown	38	690
Jasonville	61	3,295
*Jasper	78	2,196
Jefferson	30	306
Jeffersonville	92	10,412
Jerome	31	209
Jolietville	39	350
Jonesboro	33	1,573
Jonesville	64	213
K		
Kempton	32	666
Kendallville	15	4,981
Kennard	49	449
*Kentland	10	1,209
Kewanna	13	728
Keystone	26	242
Kimmell	15	390
Kingman	36	535
Kingsbury	3	250
Kirklin	30	699
Knightstown	49	2,008
Knightsville	52	1,081
*Knox	5	1,644
*Kokomo	31	17,010
Kouts	2	590
Kramer	28	260
Kurtz	71	360
L		
Lacrosse	3	480
Lacy	69	296
Ladoga	37	1,148
La Fayette	29	20,081
La Fontaine	24	683
*Lagrange	8	1,772
Lagro	24	463
Lake Bruce	13	350
Laketon	24	528
Lakeville	4	227
Lancaster	25	209
Landess	33	200
Lanesville	90	290
Laotto	15	350
Lapaz	6	390
Lapel	40	1,045
*Laporte	3	10,525
Larwill	17	490
Land	17	250
Laurel	66	503
Lawrence	47	496
*Lawrenceburg	74	3,930
Leavenworth	89	690
*Lebanon	38	5,474
Leiters Ford	13	208
Lena	44	340
Leo	18	300
Leopold	88	1,200
Lester	61	250
Lewis	51	225
Lewisville	49	446

Cities and Villages of Indiana with 1910 Populations

Towns	*Loca.*	*Pop.*
Lexington	81	325
*Liberty	59	1,338
Liberty Center	26	400
Liberty Mills	24	309
Ligonier	15	2,173
Lincoln	22	220
Linden	37	556
Linton	61	5,906
Littles	77	350
Lizton	46	224
Lockspring	73	250
*Logansport	22	19,050
London	56	226
Loogootee	69	2,154
Losantville	42	692
Lowell	1	1,235
Lucerne	22	230
Lynn	42	917
Lynnville	86	297
Lyons	61	993
Lyonton	60	390
M		
McCordsville	48	382
Mackler	77	406
Macksville	51	3,083
Macy	23	320
*Madison	82	6,934
Mahalasville	54	256
Maize	72	393
Manchester	74	312
Manilla	57	403
Mansfield	44	306
Manson	30	260
Marco	61	390
Marengo	89	686
Marietta	56	275
*Marion	33	19,359
Markle	25	820
Markleville	40	250
Marshall	44	334
Marshfield	28	390
*Martinsville	54	4,529
Martz	52	409
Matthews	33	688
Mauckport	90	279
Maxwell	48	460
Mays	57	290
Mecca	44	1,200
Mechanicsburg	49	260
Medaryville	12	710
Medora	71	809
Mellott	36	372
Memphis	92	299
Mentone	14	728
Merom	60	521
Merrillville	1	296
Metamora	66	369
Metz	9	360
Mexico	23	509
Miami	23	300
Michigan City	3	19,027
Michigantown	30	395
Middlebury	7	690
Middletons	31	200
Middletown	49	1,174
Midland	61	560
Mier	33	390
Milan	73	554
Milford	14	814
Miller	1	638
Millersburg	7	428
Millersville	47	280
Millgrove	34	250
Millhousen	65	211
Milltown	89	586
Millville	49	208
Milroy	57	709
Milton	50	601
Mishawaka	4	11,886
Mitchell	70	3,438
Modoc	42	261
Monon	29	1,184
Monroe	27	334
Monroe City	67	630
Monroeville	18	910
Monrovia	54	460
Montery	12	260
Montezuma	44	1,537
Montgomery	68	511
*Monticello	20	2,168
Montmorenci	29	325
Montpelier	34	2,786
Mooreland	49	455
Moores Hill	74	424
Mooresville	54	1,608
Moral	56	208
Moran	30	290
Morgantown	54	667
Morocco	10	927
Morris	73	350
Morristown	56	622
Mount Ayr	10	231
Mount Summit	49	360
*Mount Vernon	84	5,563
Mount Zion	36	392
Mulberry	30	850
*Muncie	41	24,005
Munster	1	543
N		
Napoleon	73	460
Napanee	7	2,260
*Nashville	63	354
National Military Home	33	2,289
Needham	55	290
*New Albany	91	20,629
New Alsace	74	269
New Augusta	47	326
Newberry	61	455
Newbern	64	250
Newberry	61	590
Newburg	86	1,097
New Carlisle	4	612
*Newcastle	49	9,440
New Corydon	35	200
New Harmony	84	1,229
New Haven	18	1,038
New Marion	73	208
New Market	37	334
New Palestine	48	450
New Paris	7	409
New Pekin	80	246
New Point	65	341
*Newport	43	732
New Providence	92	350
New Richmond	37	464
New Ross	37	296
New Salem	57	290
Newton	36	350
New Washington	92	268
New Waverly	22	360
Nineveh	55	390
*Noblesville	39	5,073
Normal	33	1,122
Northgrove	23	400
North Judson	5	1,143
North Liberty	4	681
North Madison	82	960
N. Manchaster	24	2,428
North Salem	46	560
North Vernon	72	2,915
North Webster	14	460
Norwood	47	400
Notre Dame	4	1,209
O		
Oakland City	76	2,370
Oaklandon	47	353
Oaktown	67	608
Oakville	41	209
Ober	5	260
Odon	68	1,064
Ogden	49	360
Ohio Falls	92	237
Oldenburg	66	956
Ontario	8	260
Onward	22	200
Oolitic	70	1,079
Ora	5	250
Orange	58	260
Orestes	40	420
Orland	9	506
Orleans	79	1,367
Osceola	4	260
Osgood	73	1,169
Ossian	26	661
Otis	3	250
Otisco	92	218
Otterbein	19	652
Otwell	77	360
Owensburg	61	450
Owensville	76	1,237
Oxford	19	1,010
P		
Packerton	14	309
Palmyra	90	252
*Paoli	79	1,278
Paragon	54	409
Paris Crossing	72	487
Parker	42	890
Parr	11	360
Patoka	76	657
Patricsburg	53	460
Patriot	83	310
Pendleton	40	1,293
Pennville	35	890
Perkinsville	40	380
Perrysville	43	650
Perth	52	562
*Peru	23	10,910
*Petersburg	77	2,170
Philadelphia	48	209
Pickard	30	306
Pierceton	14	817
Pierceville	73	206
Pine Village	28	352
Pillsburg	21	460
Pittsboro	46	408
Pittsburg	21	420
Plainfield	46	1,303
Plainville	68	560
Pleasant Lake	9	606
Pleasant Mills	27	250
Pleasantville	77	390
Pleasantville	60	225
*Plymouth	6	3,838
Point Isabel	33	290
Poneto	26	308
Porter	2	524
Port Fulton	92	1,060
*Portland	35	5,130
Poseyville	84	780
Prairieton	51	369
*Princeton	76	6,448
Putnamville	45	204
Q		
Quincy	53	360
R		
Raub	19	250
Ray	9	360
Raysville	49	353
Redkey	35	1,714
Reedville	48	490
Reelsville	45	290
Remington	11	982
*Rensselaer	11	2,393
Reynolds	20	377
Richland	87	380
*Richmond	50	22,324
Ridge View	23	440
Ridgeville	42	1,302
Rigdon	33	203
Riley	51	550
*Rising Sun	75	1,513
River Park	4	1,505
Riverside	41	863
Roachdale	45	849
Roann	24	447
Roanoke	25	699
Roby	1	315
*Rochester	13	3,364
Rockfield	21	390
Rockford	71	260
*Rockport	87	2,736
*Rockville	44	1,943
Rolling Prairie	3	402
Rome City	15	450
Romney	29	200
Rosedale	44	1,166
Roselawn	10	300
Rossville	30	677
Royal Center	22	909
Royerton	41	390
*Rushville	57	4,925
Russellville	45	413
Russiaville	31	298
S		
Saint Joe	16	391
Saint John	1	260
Saint Leon	74	261
Saint Marys	51	209
Saint Meinrad	87	538
Saint Omer	65	388
Saint Paul	65	1,225
Saint Peters	66	209
*Salem	80	2,283
Salem Center	9	200
Saline City	52	350
Sanborn	67	445
Sanford	51	250
Sandusky	65	290
San Pierre	5	460
Saratoga	42	410
Schererville	1	250
Schnellville	78	220
Scipio	72	250
Scircleville	30	250
Scotland	61	290
*Scottsburg	81	1,669
Sedalia	30	460
Seelyville	51	1,188
Sellersburg	92	618
Selma	41	350
Selvin	86	306
Servia	24	369
Seymour	71	6,305
Sharpsville	32	709
Shelburn	60	2,055
*Shelbyville	56	9,500
Sheridan	39	1,768
Shideler	41	209
Shipshewana	8	560
Shirley	48	1,519
Shirley City	18	375
Shoals	69	1,015
Sidney	14	406
Silver Grove	91	783
Silver Lake	14	493
Sims	33	250
Smithville	62	406
Solsberry	61	206
Somerset	24	306
*South Bend	4	53,684
South Milford	8	375
South Peru	20	866
Southport	47	352
South Whitley	17	1,176
Spartanburg	42	360
*Spencer	53	2,150
Spencerville	16	390
Spiceland	49	622
Springville	70	390
Star City	12	450
Staunton	52	746
Stendal	77	250
Stewartsville	84	390
Stillesville	46	490
Stillwell	3	309
Stinesville	62	497
Stockwell	29	506
Stonebluff	36	390
Straughn	49	543
Stroh	8	560
*Sullivan	60	4,115
Sulphur Springs	49	209
Summitville	40	1,387
Sunman	73	353
Swayzee	33	836
Sweetsers	33	733
Switz City	61	662
Sycamore	31	309
Sylvania	44	290
Syracuse	14	1,379
T		
Tangier	44	390
Taswell	89	260
Taylorsville	64	590
Teegarden	6	208
Tefft	11	206
Tell City	88	3,369
Templeton	19	308
Tennyson	86	371
*Terra Haute	51	58,157
Thayer	10	200
Thorntown	38	1,508
Tippecanoe	6	480
*Tipton	32	4,075
Tolleston	1	1,069
Topeka	8	502
Trafalgar	55	490
Trenton	42	360
Troy	88	510
Tunnelton	70	235
Turner	52	390
Twelve Mile	22	260
Tyner	6	260
U		
Uhee	25	260
Union	77	206
Union City	42	3,209
Union Mills	3	560
Upland	33	1,080
Upton	84	250
Urbana	24	308
Utica	92	400
V		
Vallonia	71	550
*Valparaiso	2	6,987
Vanburen	33	1,189
Veedersburg	36	1,757
Velpen	77	250
*Vernon	72	453
*Versailles	73	486
*Vevay	83	1,256
Vienna	81	206
*Vincennes	67	14,895
W		
*Wabash	24	8,687
Wadesville	84	1,062
Wakarusa	7	859
Waldron	56	460
Walkerton	4	1,003
Walton	22	579

Cities and Villages of Indiana with 1910 Populations

Towns	*Loca.*	*Pop.*
Wanatah	3	860
Warren	25	1,189
Warrington	48	200
*Warsaw	14	4,430
*Washington	68	7,854
Waterloo	16	1,167
Waterman	44	206
Watson	92	250
Watson	52	309
Waveland	37	676
Wawaka	15	409
Wawpecong	23	210
Waynetown	37	734
Webster	50	300
Wellsboro	3	200
West Baden	79	746
West College Corner	59	432
Westfield	39	700
West Fork	89	209
West Harrison	74	281
West Lafayette	29	3,867
West Lebanon	28	642
West Middleton	31	200
West Newton	47	360
Westpoint	29	309
Westport	65	675
West Terra Haute	51	3,083
Westville	3	503
Wheatfield	11	357
Wheatland	67	409
Wheeler	2	250
Whiteland	55	343
Whitestown	38	806
Whiting	1	6,587
Wilkinson	48	560
Williams	70	350
Williamsburg	50	306
*Williamsport	28	1,243
*Winamac	12	1,607
*Winchester	42	4,266
Windfall	32	899
Wingate	37	446
Winona Lake	14	1,066
Winslow	77	932
Wolcott	20	873
Wolcottville	8	627
Wolflake	15	450
Woodburn	18	862
Woodruff	8	833
Worthington	61	1,732
Y		
Yeddo	36	209
Yoder	18	260
Yorktown	41	1,100
Young America	22	560
Z		
Zanesville	26	306
Zionsville	38	840

INDIANA

CENTER OF POPULATION IN THE UNITED STATES AS FOLLOWS: 1890, NEAR COLUMBUS, IND.; 1900, SPARTANBURG, IND.; 1910, BLOOMINGTON, IND.

See Locations on Our Map

One of the very favorably located states in the United States is Indiana. In topography it is **gently undulating** over fully two-thirds of the state. The variation in elevation from Randolph county to Posey county, the extreme south-west part of the state, being only 900 feet in a distance of about 200 miles.

Indiana is essentially a prairie state, with a highly fertile soil produced, as in other **prairie states,** from the decay of vegetation upon its level surface for many generations.

GREAT DEPTH OF RICH SOIL

This strength of fertility is many feet in depth, the soil growing certain crops many years in succession without the necessity for the use of any fertilizing material.

THE RIVER VALLEYS.

The principal river valleys of the state are exceedingly fertile. The Wabash valley covers 12,000 **square miles,** the White River valley comprises 9,000 square miles, while the Maumee valley, in the northeastern part of the state, includes an area of 2,000 square miles.

The State is abundantly watered with rivers and small streams. **The Ohio** borders the south of the State for a distance, with its windings, of over 140 miles. **The Wabash** rises in Ohio, flows through the State for a distance of more than **500 miles** and empties into the Ohio. It has been **navigated** for a distance of **300 miles** from its mouth. **The Kankakee,** one of the constituents of the Illinois, flows a distance of **100 miles** through the northwestern portion of the State.

The limestone region in the southern part of the State contains many caves; the **Wyandotte Cave** in Crawford County being almost as remarkable as the Mammoth Cave in Kentucky.

Bituminous Coal, in three varieties, is found in the State in great abundance. The coal area covers over **6,000 square miles** in the southwestern part of the State, extending from Warren County, on the north, to the Ohio River, on the south, a distance of **150 miles.** The total depth of the measures is from 600 to 800 feet, the seams ranging from one to eleven feet in thickness.

The celebrated "Indiana block" coal, used for making pig iron, is found in the southern portion of the coal area. It is taken out of the mines in blocks weighing **a ton** or more. In Daviess County there is a seam of **superior cannel coal.**

The area occupied by building stone quarries is estimated to cover **200 square miles,** adjoining the coal fields. The stone in the beautiful Indiana capitol building and other important edifices are from the quarries of this state. Among **other minerals is** lithographic stone, and sand suitable for the manufacture of plate glass.

Salt springs exist in the eastern border of the coal formation. **Petroleum** is an important product of the State and **natural gas** is used here in heating, lighting and manufacturing, besides being very considerably **exported into Illinois** through pipes laid for that purpose.

The absence of mountain ranges permits free access of **wind from every point** of the compass, with the consequence that the weather is often **severe** in the winter, yet destructive winds and very **deep snows** are rare. The average winter temperature is 31 degrees and in spring 51 degrees; summer, 76 degrees; autumn, 55 degrees. For the year, 52 degrees. The amount of rainfall is 43.32.

The purchase of land at present prices, by the land-seeker, must result in large profit, from the fact that, compared with other States, Indiana can support a population **four times** as great as there are at present within her boundaries.

THE CAPITAL OF THE STATE.

Indianapolis is located on a nearly level site 722 feet above tide water, in a region of unsurpassed agricultural and mineral resources, on the edge of the natural gas belt, discovered in 1885, and but a few hours from extensive forests, great area of coal fields, and rich veins of iron ore. **Centrally located** as this city is, in one of the great central States, **it is natural** that this should be a great railroad center, which is demonstrated by the incoming and outgoing of over 200 trains a day from the **colossal Union Depot** in the city.

Nine parks adorn the city, nine iron bridges cross the river and many miles of electric roads are in and about the town. The city has over 130 churches, over 40 school buildings and over 60 paved streets.

There are many reasons why Indiana is a rich State and destined to maintain a **dense population.** Among these is the fact that its central location makes it a **natural highway** with easy output for all its agricultural and manufactured productions.

Its highly fertile soil produces in abundance wheat, corn, rye, oats, barley, buckwheat, peas, beans, potatoes, grass, clover seed, fruit, flaxseed, flax, hemp, hay, tobacco, wool, hops, beef, bacon, pork in bulk, butter, cheese, milk, maple sugar, maple molasses, sorghum molasses, honey, wax, wine, cider and vinegar.

It is an ideal region for corn, but any agriculturist who will pursue diversity of farming, of which the state is capable, is sure of a crop of some kind every year.

Indiana is fortunate in the possession of a large amount of natural resources. Besides rich soil, unlimited quantities of coal, building stone, oil and gas, about **one-third of the State** is covered with forests, chiefly hardwood, including white, black, red and burr oak, hickory, **sugar and red maple,** ash, beech, sycamore, elm, tulip, black walnut, tamarack, sumac, redbud, dogwood, persimmon and wild plum.

NUMEROUS OPPORTUNITIES.

In the great variety of opportunities in agriculture, horticulture, manufacture, commerce and merchandising, the land seeker who chooses Indiana as **an abiding place** may be considered fortunate.

CONDENSED IMPORTANT FACTS.

Altitude. Highest point is at Carlos, in Randolph County, 1,023 feet above sea level.

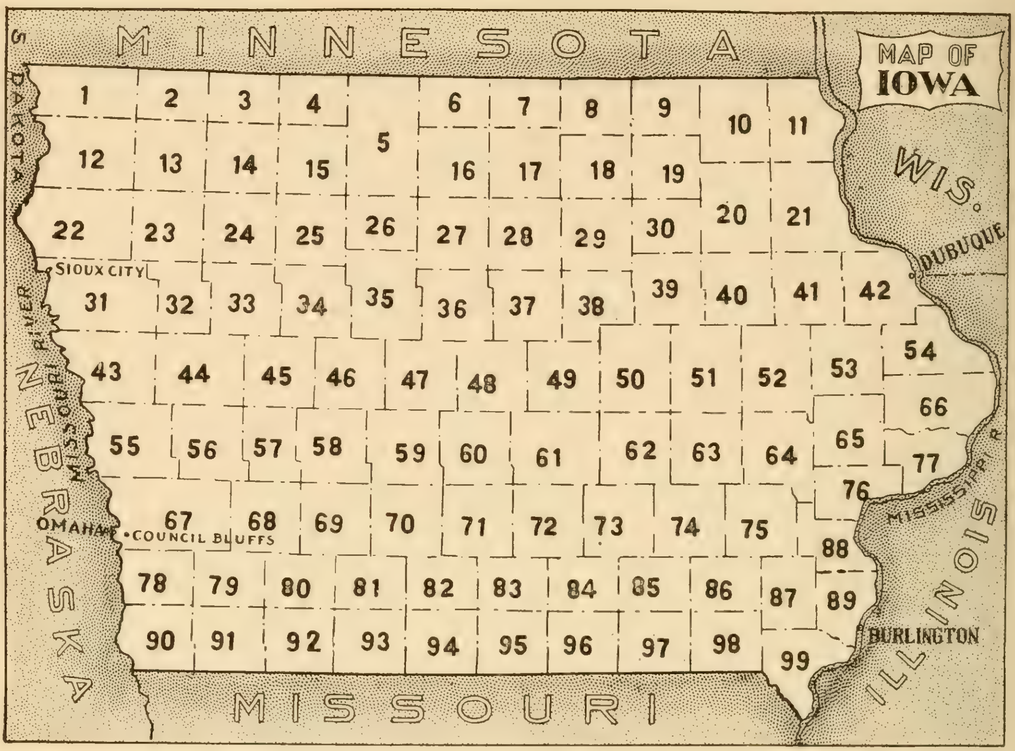
Climate. Temperature at Indianapolis extremes. Highest, 106 degrees; lowest, 25 degrees below. General temperature mentioned elsewhere.

Dimensions. Extreme length, 265 miles; extreme width, 160 miles; area, 36,350 square miles.

History. Immigrants from Canada settled at Vincennes in 1702, Coryden and other places. Indiana was a territory in 1800, Vincennes being the capital. The defeat of Tecumseh, Indian chief of the Shawnees, by General Harrison at Tippecanoe in Indian battle in 1811, originated the saying, when Harrison and Tyler were candidates for the presidency and vice-presidency: "Tippecanoe and Tyler, too." Tippecanoe is a small town of 304 people, in Marshall County.

STATE AND THE 99 COUNTIES OF IOWA

With Their Boundaries



LOCATION AND POPULATION OF IOWA COUNTIES

Location and Population of IOWA COUNTIES

Location	COUNTIES	Pop. 1910
1	Lyon	14,624
2	Oscola	8,956
3	Dickinson	8,137
4	Emmet	9,816
5	Kossuih	21,971
6	Winnebago	11,914
7	Worth	9,950
8	Mitchell	13,435
9	Howard	12,920
10	Winnesheik	21,729
11	Allmakee	17,328
12	Sioux	25,248
13	O'Brien	17,262
14	Clay	12,766
15	Palo Alto	13,845
16	Hancock	12,731
17	Cerro Gordo	25,011

Loca.	County	Pop.
18	Floyd	17,119
19	Chickasaw	15,375
20	Fayette	27,919
21	Clayton	25,576
22	Plymouth	23,129
23	Cherokee	16,741
24	Bueno Vista	15,981
25	Pocahontas	14,808
26	Humboldt	12,182
27	Wright	17,951
28	Franklin	14,780
29	Butler	17,119
30	Bremer	15,843
31	Woodbury	67,616
32	Ida	11,296
33	Sac	16,555
34	Calhoun	17,090
35	Webster	34,629
36	Hamilton	19,242
37	Hardin	20,921
38	Grundy	13,574
39	Blackhawk	44,865
40	Buchanan	19,748
41	Delaware	17,888
42	Dubuque	57,450
43	Monona	16,633
44	Crawford	20,041
45	Carroll	20,117
46	Greene	16,023
47	Boone	27,626
48	Story	24,083
49	Marshall	30,279
50	Tama	22,156
51	Benton	23,156
52	Linn	60,720
53	Jones	19,050
54	Jackson	21,258
55	Harrison	23,162
56	Shelby	16,552
57	Audubon	12,671
58	Guthrie	17,374
59	Dallas	23,628
60	Polk	110,438
61	Jasper	27,034
62	Poweshiek	19,589
63	Iowa	18,409
64	Johnson	25,914
65	Cedar	17,765
66	Clinton	45,394
67	Pottawattomie	55,832
68	Cass	19,057
69	Adair	14,420
70	Madison	15,621
71	Warren	18,194
72	Marion	22,995
73	Mahaska	29,860
74	Keokuk	21,160
75	Washington	19,925
76	Muscatine	25,505
77	Scott	60,000
78	Mills	15,811
79	Montgomery	16,604
80	Adams	10,998
81	Union	16,616
82	Clarke	10,736
83	Lucas	13.462
84	Monroe	25,429
85	Wapello	37,743
86	Jefferson	15,956
87	Henry	18,640
88	Louisa	12,855
89	Des Moines	36,145
90	Fremont	15,623
91	Page	24,002
92	Taylor	13,845
93	Ringgold	12,904
94	Decatur	16,347
95	Wayne	16,184
96	Appanoose	28,701
97	Davis	13,315
98	Van Buren	15,020
99	Lee	36,702
Total		2,224,771

Iowa Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
Abingdon	86	209
Ackley	37	1,244
Adair	69	906
*Adel	59	1,289
Afton	81	1,014
Agency	85	322
Ainsworth	75	408
Akron	22	1,130
Albert City	24	261
*Albia	84	4,969
Albion	49	457

Iowa Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Alburnett	52	250
Alden	37	699
Alexander	28	262
*Algona	5	2,908
Allerton	95	862
*Allison	29	495
Alta	24	959
Alta Vista	19	356
Alton	12	1,046
Altoona	60	438
Alvard	1	283
Amana	63	621
Ames	48	4,223
*Anamosa	53	2,983
Andrew	54	307
Angus	47	248
Anita	68	1,118
Ankeny	60	445
Anthon	31	635
Aplington	29	448
Arcadia	45	390
Archer	13	351
Arlington	20	678
Armstrong	4	586
Arnold	26	251
Arnold's Park	3	273
Arthur	32	215
Ashton	2	518
Aspinwall	44	200
Atalissa	76	220
Atkins	51	209
*Atlantic	68	4,560
Auburn	33	399
*Audubon	57	1,928
Aurelia	23	625
Aurora	40	287
Avery	84	560
Avoca	67	1,520
Ayrshire	15	337
B		
Badger	35	212
Bagley	58	448
Bailey	8	226
Baldwin	54	229
Bancroft	5	830
Barnes City	73	307
Batavia	86	560
Battle Creek	32	527
Baxter	61	527
Bayard	58	539
Beacon	73	623
Beacon Jct.	73	953
Beaman	38	220
*Bedford	92	1,883
Belle Plaine	51	3,121
Bellevue	54	1,776
Belmond	27	1,224
Bennett	65	243
Bertram	52	861
Bettendorf	77	909
Bevington	70	220
Birmingham	98	572
Blairsburg	36	241
Blairstown	51	532
Blakesburg	85	344
Blanchard	91	408
Blencoe	43	283
Blockton	92	648
*Bloomfield	97	2,038
Blue Grass	77	223
Bode	26	419
Bolton	72	200
Bonaparte	98	597
Bondurant	60	287
*Boone	47	10,347
Boyden	12	364
Braddyville	91	283
Brandon	40	200
Brazil	96	645
Breda	45	374
Bridgewater	69	365
Brighton	75	776
Bristow	29	291
Britt	16	1,303
Brooklyn	62	1,233
Buffalo	77	456
Buffalo Center	6	753
*Burlington	89	24,324
Burroak	10	731
Burt	5	495
Bussey	72	669
Buxton	84	5,060
C		
Calamus	66	270
Callender	35	321
Calmar	10	849
Calumet	13	242
Camanche	66	629
Cambridge	48	696
Cantril	98	445
Carbon	80	246
Carlisle	71	592
*Carroll	45	3,546
Carson	67	640
Cascade	42	1,268
Casey	58	629
Castalia	10	230
Castana	43	364
Cedar	73	1,164
Cedar Falls	39	5,012
Cedar Rapids	52	32,811
Center Point	52	802
*Centerville	96	6,936
Central City	52	558
Chapin	28	250
*Chariton	83	3,794
*Charles City	18	5,892
Charleston	99	935
Charlotte	66	356
Charter Oak	44	734
Chelsea	50	507
*Cherokee	23	4,884
Chester	9	266
Chester Center	62	300
Churdan	46	667
Cincinnati	96	1,355
Clare	35	299
Clarence	65	662
*Clarinda	91	3,832
*Clarion	27	2,065
Clarkdale	96	200
Clarksville	29	957
Clay	75	639
Clearfield	92	625
Clear Lake	17	2,014
Clemons	49	213
Clermont	20	510
*Clinton	66	25,577
Coalfield	84	406
Coalville	35	350
Coggon	52	471
Coin	91	591
Colesburg	41	271
Colfax	61	2,524
College Sprgs	91	626
Collins	48	521
Colo	48	463
Columbia	72	280
Columbus City	88	375
Columbus Jct.	88	1,185
Conesville	76	347
Conrad	38	549
Conway	92	283
Coon Rapids	45	1,084
*Corning	80	1,702
Correctionville	31	893
Corwith	16	455
*Corydon	95	1,669
Cotter	88	200
*Council Bluffs	67	29,292
Crawfordsville	75	322
Crescent	67	375
*Cresco	9	2,658
*Creston	81	6,921
Cricket	73	250
Cromwell	81	208
Cumberland	68	552
Cumming	71	208
Cushing	31	254
D		
Dahlonega	85	466
*Dakotah	26	391
Dallas	72	300
Dallas Center	59	769
Danbury	31	558
Danville	89	263
Darbyville	96	200
*Davenport	77	43,028
Davis City	94	489
Dawson	59	275
Decatur	94	311
*Decorah	10	3,592
Dedham	45	355
Deep River	62	467
Defiance	56	411
Delaware	41	219
Delhi	41	375
Delmar	66	548
Deloit	44	208
Delta	74	728
*Denison	44	3,133
Denmark	99	480
Denver	33	224
Derby	83	326
Des Moines	60	86,368
De Soto	59	356
Dewitt	66	1,634
Dexter	59	767
Diagonal	93	509
Dickens Lake	14	255
Dike	38	229
Dixon	77	408
Donnellson	99	337
Doon	1	581
Douds Leando	98	1,060
Douglass	20	300
Dow City	44	462
Dows	27	892
Drakesville	97	249
*Dubuque	42	38,494
Dumont	29	550
Duncombe	35	418
Dundee	41	200
Dunkerton	39	276
Dunlap	55	1,155
Dunreath	72	250
Durant	65	720
Dyersville	42	1,511
Dysart	50	906
E		
Eagle Center	39	693
Eagle Grove	27	3,387
Earlham	70	749
Earling	56	323
Earlville	41	552
Early	33	500
East Peru	70	371
Eddyville	85	1,085
Eden	20	214
Edenville	49	448
Edgewood	21	555
Elberon	50	336
Eldon	85	2,024
*Eldora	37	1,995
Eldridge	77	217
Elgin	20	564
*Elkader	21	1,181
Elk Horn	56	347
Elkport	21	210
Elliott	79	528
Ellston	93	205
Ellsworth	36	406
Elma	9	807
Emerson	78	478
*Emmetsburg	15	2,325
Enterprise	60	350
Epworth	42	520
Essex	91	776
*Estherville	4	3,404
Evans	73	609
Eveland	73	260
Everlist	72	590
Everly	14	392
Exira	57	787
Exline	96	660
F		
Fairbank	40	618
Fairfax	52	225
*Fairfield	86	4,970
Fairview	53	290
Farley	42	676
Farmersburg	21	259
Farmington	98	1,165
Farnhamville	34	332
Farragut	90	431
Fayette	20	1,112
Fenton	5	211
Fertile	7	207
Flagler	72	409
Floris	97	309
Floyd	18	332
Fonda	25	978
Fontanelle	69	789
*Forest City	6	1,691
Fort Atkinson	10	289
*Fort Dodge	35	15,543
*Fort Madison	99	8,900
Foster	84	276
Fraker	84	400
Frankville	10	200
Fraser	47	1,360
Fraser Jct.	47	537
Fredricksburg	19	558
Fredonia	88	250
Fremont	73	501
French Creek	11	646
Fruitland	76	789
G		
Galesburg	61	280
Galt	27	250
Galva	32	357
Garden Grove	94	611
Garnavillo	21	342
*Garner	16	1,028
Garrison	51	438
Garwin	50	425
George	1	606
Georgetown	84	606
Germania	5	436
Gilbert Station	48	250
Gilbertsville	39	280
Gilman	49	430
Gilmore City	25	689
Givin	73	400
Gladbrook	50	869
*Glenwood	78	4,052
Glidden	45	850
Goldfield	27	618
Goodell	16	240
Gowrie	35	829
Graettinger	15	556
Grand Jct.	46	1,012
Grandmound	66	428
Grand River	94	333
Grandview	88	374
Granger	59	225
Grant	79	250
Granville	12	406
Gravity	92	475
Greeley	41	383
Greene	29	1,150
*Greenfield	69	1,379
Grimes	60	733
Grinnell	62	5,036
*Grundy Ce't'r	38	1,354
Guthrie Ce't'r	58	1,337
Guttenberg	21	1,873
H		
Halbur	45	309
Hale	53	924
Hamburg	90	1,817
Hamilton	72	391
*Hampton	28	2,617
Hancock	67	250
Harcourt	35	247
*Harlan	56	2,570
Harper	74	232
Harpers Ferry	11	297
Harris	2	239
Hartley	13	1,106
Harvey	72	346
Hastings	78	393
Havelock	25	241
Hawarden	12	2,107
Hawkeye	20	510
Hazleton	40	444
Hedrick	74	978
Henderson	78	240
Hesper	10	200
Highlandville	10	808
Hillsboro	87	325
Hinton	22	329
Hiteman	84	2,000
Hocking	84	1,400
Holstein	32	936
Homestead	63	300
Hopkinton	41	797
Hornick	31	245
Hospers	12	581
Hubbard	37	568
Hudson	39	372
Hull	12	658
Humboldt	26	1,809
Humeston	95	1,006
Huron	89	908
Hurtsville	54	260
Huxley	48	336
Hynes	84	500
I		
*Idagrove	32	1,874
Imogene	90	341
*Independence	40	3,517
*Indianola	71	3,283
Inwood	1	595
Ionia	19	298
*Iowa City	64	10,091
Iowafalls	37	2,797
Ireton	12	631
Irwin	56	278

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located: Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Iowa Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
J		
Jamaica	58	579
Jamestown	77	208
Janesville	30	269
*Jefferson	46	2,477
Jerome	96	575
Jesup	40	697
Jewell	36	941
Joice	7	289
Jolley	34	250
K		
Kalo	35	350
Kalona	75	466
Kamrar	36	262
Kanawha	16	398
Kellerton	93	503
Kelley	48	231
Kellogg	61	610
Kensett	7	360
Kenwood Park	52	376
*Keokuk	99	14,008
*Keosauqua	98	1,009
Keota	74	988
Keswick	74	321
Keystone	51	412
Kimballton	57	271
Kingsley	22	977
Kirkville	85	299
Kiron	44	207
Klemme	16	306
Knierim	34	220
*Knoxville	72	3,190
Kossuth	89	250
L		
Lacona	71	517
Laddsdale	97	250
Ladora	63	260
Lake City	34	2,043
Lake Mills	6	1,214
Lake View	33	514
Lamoni	94	1,541
Lamont	40	571
Lamotte	54	288
Lancaster	74	262
Lanesboro	45	268
Lansing	11	1,542
Laporte City	39	1,233
Larchwood	1	434
Latimer	28	378
Laurens	25	817
Lawler	19	601
Le Claire	77	690
Ledyard	5	222
Le Grand	49	338
Lehigh	35	928
Leighton	73	200
*Le Mars	22	4,157
Lenox	92	1,274
*Leon	94	1,991
Lester	1	244
Letts	88	433
Lewis	68	603
Liberty	82	825
Libertyville	86	1,017
Lime Spring	9	498
Linden	59	315
Lineville	95	600
Linnburg	35	309
Linn Grove	24	590
Lisbon	52	846
Liscomb	49	351
Little Rock	1	471
Little Sioux	55	390
Livermore	26	578
Lockman	84	390
*Logan	55	1,453
Lohrville	34	674
Lone Tree	64	782
Long Grove	77	225
Lorimor	81	645
Lost Nation	66	523
Lovilia	84	552
Lowden	65	584
Low Moor	66	253
Lucas	83	666
Luverne	5	501
Lynnville	61	370
Lyons	66	5,799
Lytton	33	209
M		
McCallsburg	48	309
McGregor	21	1,259
McIntire	4	487
Macedonia	67	357
Madrid	47	1,191
Magnolia	55	225
Malcolm	62	377
Mallard	15	331
Malvern	78	1,154
*Manchester	41	2,758
Manilla	44	875
Manly	7	346
Manning	45	1,434
Manson	34	1,236
Mapleton	43	1,100
*Maquoeta	54	3,570
Marathon	24	532
Marble Rock	18	480
Marcus	23	896
Marengo	63	1,786
*Marion	52	4,400
Marne	68	266
Marshalltown	49	13,374
Martinsburg	74	285
Marysville	72	319
*Mason City	17	11,230
Masonville	41	282
Massena	68	490
Maurice	12	290
Maxwell	48	754
Maynard	20	382
Mechanicsville	65	817
Mediapolis	89	858
Melbourne	49	423
Menlo	58	382
Meriden	23	246
Merrill	22	526
Meyer	8	387
Miles	54	334
Milford	3	575
Millersburg	63	258
Milo	71	519
Milton	98	913
Minburn	59	388
Minden	67	423
Minerva	49	744
Mingo	61	246
Missouri Val'y	55	3,187
Mitchell	8	231
Mitchellville	60	869
Modale	55	387
Moingona	47	250
Mondamin	55	420
Monmouth	54	221
Monona	21	792
Monroe	61	800
*Montezuma	62	1,172
Monticello	53	2,043
Montour	50	383
Montpelier	76	576
Montrose	99	708
Moorhead	43	366
Moran	59	682
Morning Sun	88	897
Moscow	76	275
Moulton	96	1,233
Mount Auburn	51	268
Mount Ayr	93	1,646
Mt. Pleasant	87	3,874
Mount Sterling	98	232
Mount Vernon	52	1,532
Moville	31	552
Murray	82	796
*Muscatine	76	16,178
Mystic	96	2,663
N		
Nashua	19	1,102
Neoia	67	926
*Nevada	48	2,138
New Albin	11	588
Newell	24	728
Newhall	51	225
*New Hampton	19	2,275
New Hartford	29	482
New London	87	1,144
New Market	92	673
New Pr'vid'ce	37	246
New Sharon	73	1,122
*Newton	61	4,616
New Virginia	71	396
Nichols	76	369
Nilesville	18	866
Nodaway	80	323
Nora Springs	18	985
North English	63	848
No. McGregor	21	588
*Northwood	7	1,264
Norwalk	71	315
Norway	51	479
Numa	96	659
O		
Oakland	67	1,105
Oakville	88	389
Ocheyedan	2	595
Odebolt	33	1,283
Oelwein	20	6,028
Ogden	47	1,298
Okoboji	3	504
Olin	53	659
Ollie	74	289
*Onaway	43	2,026
Onslow	53	214
*Orange City	12	1,374
Orient	69	373
Osage	8	2,445
*Osceola	82	2,416
*Oskaloosa	73	9,456
Ossian	10	749
Otho	35	904
Otley	72	309
Oto	31	208
Ottercreek	54	689
*Ottumwa	85	22,012
Oxford	64	614
Oxford Jct.	53	822
P		
Pacific Jct.	78	501
Packwood	86	264
Palo	52	208
Panama	56	232
Panora	58	1,080
Parkersburg	29	938
Parnell	63	369
Paton	46	358
Paullina	13	796
Pella	72	3,021
Perry	59	4,630
Persia	55	358
Peterson	14	480
Pierson	31	416
Pilot Mound	47	347
Pisgah	55	212
Plainfield	30	288
Plainview	77	208
Pleasant Grove	89	848
Pleasanton	94	200
Pleasn't Valley	77	767
Pleasantville	72	691
Plymouth	17	358
*Pocohantas	25	987
Polk	60	310
Pomeroy	34	815
Popejoy	28	200
Portsmouth	56	347
Postville	11	952
Prairie City	61	764
Prescott	80	426
Preston	54	642
*Primghar	13	733
Princeton	77	379
Promise City	95	274
Pulaski	97	382
Q		
Quarry	49	224
Quasqueton	40	394
Quimby	23	208
R		
Radcliffe	37	660
Randall	36	209
Randolph	90	304
Rathbun	96	382
Readlyn	30	227
Reasnor	61	250
Redding	93	269
Redfield	59	659
*Red Oak	79	4,830
Reinbeck	38	1,205
Remsen	22	1,076
Renwick	26	372
Rhodes	49	500
Riceville	8	844
Richland	74	613
Rickardsville	42	200
Ridgeway	10	354
Ringsted	4	313
Rippey	46	407
Riverside	75	652
Riverton	90	583
Rochester	65	689
Rockford	18	916
*Rock Rapids	1	2,005
Rock Valley	12	1,198
Rockwell	17	700
*Rockwell City	34	1,528
Roland	48	641
Rolfe	25	954
Rose Hill	73	269
Rowan	27	256
Rowley	40	200
Royal	14	300
Rudd	18	296
Runnells	60	428
Russell	83	612
Ruthven	15	655
Rutland	26	212
Ryan	41	511
S		
Sabula	54	918
*Sac City	33	2,201
Saint Ansgar	8	747
Saint Charles	70	399
Salem	87	501
Salix	31	390
Sanborn	13	1,174
Sandspring	41	200
Sargents Bluff	31	416
Schaller	33	646
Schleswig	44	455
Scotch Grove	53	705
Scranton	46	845
Searsboro	62	226
Seigel	30	200
Selma	98	200
Sergeant Bluff	31	525
Sewal	95	208
Seymour	95	2,290
Shambaugh	91	245
Shannon City	81	292
Sharon Center	64	1,076
Sheffield	28	824
Shelby	56	586
Sheldahl	60	202
Sheldon	13	2,941
Shellrock	29	741
Shellsburg	51	527
Shenandoah	91	4,976
*Sibley	2	1,330
*Sidney	90	1,019
*Sigourney	74	2,032
Silver City	78	438
Silverlake	7	638
Sioux Center	12	1,064
*Sioux City	31	47,824
Sioux Rapids	21	868
Slater	48	473
Sloan	31	547
Smithland	31	334
Solon	64	450
South Amana	63	248
South English	74	338
*Spencer	14	3,005
Spillville	10	320
*Spirit Lake	3	1,162
Springbrook	54	217
Springdale	31	208
Springville	52	588
Stacyville	8	407
Stanhope	36	281
Stanley	40	280
Stanton	79	653
Stanwood	65	511
State Center	49	898
Steamb't Rock	37	378
Sterling	54	300
Stockport	98	265
Stone City	53	606
*Storm Lake	24	2,428
Story City	48	1,387
Stratford	36	554
Strawberry Pt.	21	1,052
Struble	22	327
Stuart	58	1,826
Sully	61	282
Summitville	99	280
Sumner	30	1,404
Sutherland	13	664
Swaledale	17	235
Swan	72	292
Swea City	5	402
Sweetland	76	1,134
T		
Tabor	90	909
Tama	50	2,290
Templeton	45	278
Terril	3	253
Thompson	6	566
Thor	26	271
Thornburg	74	233
Thornton	17	271
Thurman	90	336
Tingley	93	380
*Tipton	65	2,048
Titonka	5	278
*Toledo	50	1,625
Tracy	72	208
Traer	50	1,373
Trenton	87	1,124
Tripoli	30	755
Truro	70	310
U		
Underwood	67	271
Union	37	540

Iowa Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Unionville	96	306
University Pk.	73	500
Urbana	51	323
Ute	43	490
V		
Vail	44	631
Valley Jct.	60	2,513
Van Horn	51	444
Van Meter	59	386
Van Wert	94	461
Vernon	98	275
Victor	63	640
Villisca	79	2,039
Vincent	35	215
*Vinton	51	3,336
Viola	52	225
Volgo	21	416
W		
Wadena	20	253
Walcott	77	416
Walker	52	517
Wall Lake	33	561
Walnut	67	950
*Wapello	88	1,326
*Washington	95	4,380
Washta	23	410
*Waterloo	39	26,693
Waubeek	52	222
Waucoma	20	433
Waukee	59	340
*Waukon	11	2,075
*Waverly	30	3,205
Wayland	87	550
*Webster City	36	5,208
Weldon	94	308
Wellman	75	724
Wellsburg	38	288
Wescott	99	457
West	63	225
West Bend	15	679
West Branch	65	643
W. Burlington	89	1,206
West Chester	75	222
West. College	52	200
Westgate	20	232
West Grove	97	857
West Liberty	76	1,666
West Point	99	570
Westside	44	367
*West Union	20	1,652
What Cheer	74	1,720
Wheatland	66	539
White City	73	506
White Sulphur	77	250
Whiting	43	576
Whittemore	5	518
Whitten	37	219
Williams	36	457
Williamsburg	63	1,060
Wilton Jct.	76	1,157
Winfield	87	934
*Winterset	70	2,818
Winthrop	40	529
Wiota	68	239
Woodbine	55	1,538
Woodburn	82	420
Woodland	94	886
Woodward	59	712
Woolstock	27	264
Worthington	42	314
Wyoming	53	721
Y		
Yale	58	273
Yorktown	91	228
Z		
Zearing	48	461

IOWA

A State Which Transports an Agricultural Exhibit All Over the State Along With Professors to Teach Scientific Farming.

As an agricultural state Iowa stands at the very head. This is almost purely a prairie state; the richness of its soil permitting the growth of most **abundant crops.** It is also equally distinguished for development in **live stock** interests.

20,000 SQUARE MILES OF COAL BEDS.

But it is not alone in live stock and the production of **grain** in which Iowa excels. The bituminous **coal fields** of Illinois extends into Iowa, covering an area of **20,000 square miles;** the veins of coal varying in thickness from 2½ feet to 500 feet. The **lead mine tract** is in a belt occupied by Galena limestone, which touches the Mississippi at Dubuque, and **lies along** the Turkey river valley in a northwest direction.

The southern part of the state is well wooded along the rivers. In the northern portion trees are comparatively scarce, though groves of **pine and cedar** are found in some places. Of fruit trees the **apple, pear and cherry** grow in perfection. The wild plum, grape and gooseberry are indigenous.

The climate here is well adapted to agricultural operations. Owing to there being nothing to obstruct the winds there are cold in winter, but the winds of summer temper the heat. The average annual temperature is 48, spring 47½, summer 70½, autumn 45, winter 23½; annual rainfall 44.27 inches.

While it is always wise to carefully investigate conditions of land before purchase, the land seeker can scarcely go amiss in buying land in Iowa. The soil is generally good, sometimes warm and sandy in river bottoms, though there is but **little inferior** land. The rich, dark vegetable mold in the valleys of the Des Moines, Iowa and Red Cedar is from 1 to 3 feet thick, is free from pebbles, and is **very easy to cultivate.** The lowlands are generally marshy.

It is difficult to tell what cannot be grown here. The soil is **adapted to the growth** of every agricultural production which can be grown in this latitude. **For the cultivation** of the grains it is unsurpassed, potatoes grow in great perfection, and the soil and climate are favorable for **flax and tobacco.** Corn is largely grown in the southern part and in the **valley regions.** Wheat is adapted to the Cedar river district.

The blue grass country is in the southwestern part of the state. Here are found superior breeding farms for horses and **other fine stock.** From this region is exported large quantities of dairy products and fruit. The beautiful **undulating meadows,** the clear streams and pleasant hamlets, which abound in this region, emphasize the **full pleasures** of farm life.

A SUPERIOR AGRICULTURAL SCHOOL.

Another fact adding immensely to the prosperity of farmers in this state is the **Iowa Agricultural College,** located at Ames, in Story county. In accord with an act of Congress this school was organized in 1869 by an endowment of 204,309 acres.

Every department of this school is very complete and tuition free to residents of Iowa. Among other interesting features in its museums, are collections of botany, geology, entomology and natural history. Its **courses of study,** which are strictly practical, enable the graduate, in civil, electrical and mining engineering, to survey the routes for railways across the state, to instal electrical plants beside the rivers, and to test the mineral possibilities and conditions in Iowa. From the school of **veterinary science** the students go forth to properly **care for the live stock** in the state. From the dairy department the pupils go out to make success in the production of butter and cheese, for which the state is already famous.

WHAT SCIENTIFIC FARMING HAS DONE.

In the department of agriculture, it is claimed, that one of the professors, through the fitting up of a seed testing appliance, termed **"Germination Box,"** has added $15,000,000 annually to the wealth of Iowa in the increased production of corn. This box is filled with **moistened sawdust,** and before planting time kernels are selected from such ears of corn as it is desired to **reproduce** in the fields. If the seed thus chosen **readily germinates** the fact is evident that this is a good and reliable seed corn, that every kernel will bring forth a stalk of corn, and every stalk will bear large ears. Thus there is **no uncertainty** among the young farmers of Iowa as to the quality of seed which they plant, and, weather conditions being right, there is **absolute** assurance as to production of crop.

The professors of the Agricultural College in Iowa do **not stop** with simply giving instruction to those who seek their school. They know that thousands of the old style farmers **look with suspicion** upon "book farming," and unless this prejudice is overcome the state will constantly be a loser in consequence of this ignorance.

Realizing that these old farmers **will not come** to the school, a commodious car is fitted up to illustrate Iowa possibilities in agriculture, and this car **tours the state**—an agricultural exposition on wheels. It is accompanied by lecturers who **demonstrate and explain,** the result being that the farmers of Iowa are getting the science of agriculture down to the finest possible point. It is no wonder that farming in this state, with its knowledge of fertilization, the constituents of soil, the secrets of germination, and the processes of cultivation, should be **greatly superior,** in pleasure and profit, to the farming of a past generation.

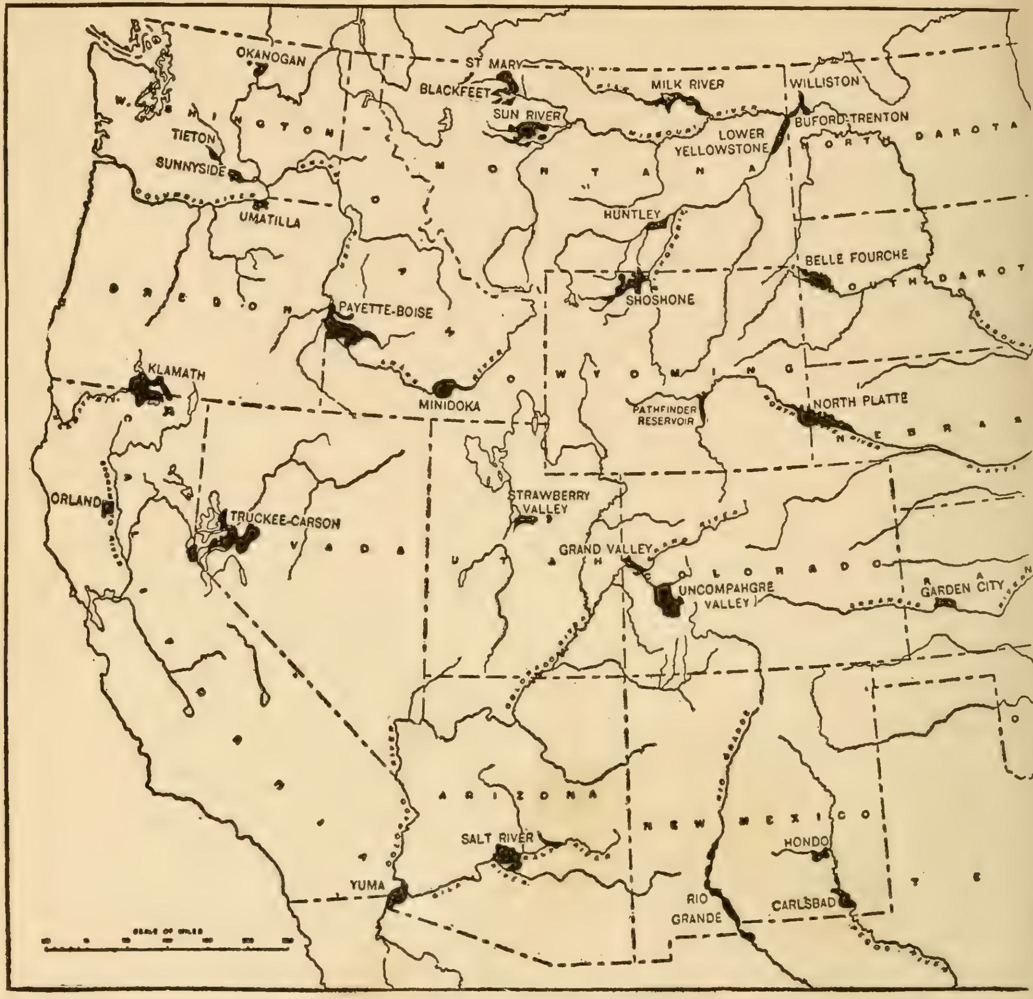
CONDENSED IMPORTANT FACTS.

Altitude. The elevations run from 1,694 feet, at Spirit Lake, in Dickinson county, to 300 feet in the Mississippi river bluffs.

Climate. Temperature average annual Des Moines, January 17; July 75. Extreme heat, 109; extreme cold 30 below. Average annual rainfall 33.1 inches.

History. Was originally a part of the Louisiana purchase in 1803, and was then inhabited by the Sac and Fox Indians. The first white settlement was made in 1788 by Julien Dubuque, a Frenchman from Canada, who obtained a grant of a large tract of land including the city now bearing his name, and the rich mineral lands surrounding it. He built a fort, carried on the mining of lead, and traded with the Indians until his death in 1810. Wisconsin territory in 1836. In 1838 the territory of Iowa was organized and **seat of government** fixed at Burlington. In 1839 the capitol was removed to Iowa City.

Location of U. S. Government Irrigation Projects.



PRINCIPAL IRRIGATION PROJECTS
IN THE WESTERN UNITED STATES.

IF THE LAND SEEKER HAS NO MONEY.

The question may arise as to what a man can do at any of these projects without money. The answer is plain. Go to work for somebody who has money and wants help.

Very full details are published in the Government relating to opportunities for new comers and settlers on any one of the projects we here describe, the location of which is shown on our map. Write for the bulletins.

Meaning of Irrigation Terms. Acre feet of water, means water sufficient to cover the land one foot in depth. **Second feet**, means flow of one cubic foot of water per second. **Duty of water**, means depth of water sufficient to supply the land one year. **Units of land**, means size of plats of land to be sold.

There is immediate and steady demand for skilled and unskilled labor at all the irrigated projects. To illustrate: From the bulletin relating to the Wyoming-Shoshone project we clip the following:

There is a steady demand for skilled labor at from $3.00 to $5.00 a day and for unskilled labor at from $2.00 to $3.00 a day. The wages paid are as follows:

Carpenters	$3.00 to $4.00
Masons	5.00
Bricklayers	5.00
Blacksmiths	4.00
Painters	3.00
Farm hands, by the day (with board)	2.00
Farm hands, by the month (with board)	40.00
Teamsters	2.50 to 3.00
Common labor	2.25 to 2.50

How and Where Shall I Get a Farm?

WHAT WILL IT COST TO HAVE CONDITIONS ON WHICH I CAN BUY AND BE ABSOLUTELY SURE OF SUCCESS

WITH weather so uncertain and climatic conditions so unreliable, where can I locate, have no fear of drouth, plant, cultivate, and get full reward for my money?

With the many millions of dollars being expended by the Government in irrigating arid, barren, waste land it is a pleasure to give the accompanying map, showing the principal irrigated regions in the Western United States, while we reproduce from Government literature much important information which land-seekers want to know.

The argument in behalf of settlement on irrigated land is well told in a bulletin issued by the Government on

The Benefits of Irrigated Land

How many times as the season advances does the farmer in Illinois or Missouri or middle western states go to town to be greeted with the question by the tradespeople: "Well, Jones. how's crops?" And how many times does the reply come: "Fine, if we can only have rain!" Irrigation means that Jones has rain when his crop needs it without damage to his neighbor Smith whose crop does not need it. It being the case that in any large section of country where diversified farming is carried on there are different crops which for their perfect maturing require water in different quantities and at different stages, a heavy rainfall at any time, while benefiting some crops must of necessity damage others, with the result that the country at large never reaches its highest possibility of production. It is only in an irrigated country that the crop which requires much water can get it at the times and in the quantities which may be needed without damage to the crop in the next field which needs less.

No Longer Playing Game of Chance.

This fact means much to the farmer. It places within his hands all the elements necessary to successful cultivation of the soil. He is no longer playing a game of chance with nature in which the dice are loaded, but a working partner with her to the end that the earth may yield its fullness. With the ability to select his land and his seed, regulate water with perfect adaptation to the requirement of his crops, with equable apportionment of labor, equipment and cultivation, and an intelligent rotation of crops, the chance of failure to the farmer on irrigated lands is reduced to its lowest degree. It is here alone that the farmer has an equal chance with men in other trades and professions, here alone may he invest his money and his time with the full assurance that he will have a fair show to reap adequate returns from the same, and that like the merchant or the mechanic, his success is largely dependent on himself.

Only Wants a Fair Chance.

That, given an equal chance, the farmer is no whit behind those of any other trade or profession, and that farming ranks among the most lucrative forms of investment and activity, is amply evidenced by a review of conditions in those sections where irrigated lands have reached a high state of development and where sufficient time has elapsed for a practical solution of its problems.

Great Advance in Nation's Progress.

Great movements in each century mark the progress of humanity, and irrigation is one of the epoch-making events of the twentieth century. A nation's real wealth is in its land, in those things which come out and off of the land. All other values are fluctuating, uncertain and contingent. Irrigation is the Midas touch which in a few years has transformed an uninhabitable desert into a blooming garden and made its sands yield greater riches than the sands of the gold-bearing placers of California or the Klondike, for the latter in time are exhausted, but the irrigated desert yields its harvest perennially. Irrigation has made millionaires of men who a few years ago were "land poor;" it has added materially to the wealth of the nation, and has made homes for thousands.

Liberal Treatment of New Settlers by the Government.

With the increase in population and the increasing demand for the supplies of life, no greater boon can befall us as a people than an increase in the available area of our farming lands, and it is through irrigation that the largest increase of this kind may be expected.

Abolish Landed Aristocracy.

One of the dominating traits of the American people is their home-making instinct. It was this rather than the lure of gold or the love of adventure which induced our forefathers to take their lives in their hands and brave starvation and death in a thousand horrible forms in order to make homes for themselves on the newly discovered continent. In the Old World the land, that basis of wealth and insignia of caste, was in the hands of a few. The value attached to it is demonstrated by the laws of entailment by which it is insured for all time to come into the possession of a few favored houses, thus constituting the landed aristocracy and perpetuating it forever. For the man who was not to his inheritance born, the ownership of land was practically an impossibility; but here was a great new and unoccupied continent offering an opportunity whereby they might acquire a coveted bit of the earth's surface. The cost of failure was death, but they deemed it worth the risk.

Our country is still being overrun today with the peasantry of Europe and the lure which brings them is the same as it was four hundred years ago. Here is a chance to make money and money will buy land. He knows no prestige nor rank which is not identified with ownership of the soil, consequently the thing most desired is land.

One of Our Greatest Dangers.

One of the greatest menaces to our country is the discontent and unrest bred among these foreigners herded in the congested quarters of great cities. The sure remedy is land. Give the man a chance to earn a home, to identify himself with the soil, to actually appropriate to himself a small portion of this country where he must live, and you have done more to make him a peaceful, law-abiding, patriotic citizen than all the preaching and legislating which can possibly be brought to bear.

Acquirement of Homes Easy.

From the very inception of our nation this home making instinct of humanity has been taken into account. It was recognized by the legislators in rewarding the services of her soldiers by liberal grants of land. From that day to this it has been the policy of our government to make the acquirement of homes easy. It has been recognized in the enactment of all those statutes making easy the acquirement of public domain. Areas greater in extent than many of the original states have been donated for the purpose of making habitable the unutilized lands of the people. At one time the property of the nation embraced 1,800,000,000 acres; today it has been reduced to less than 500,000,000 acres. Out of this public domain twenty vigorous commonwealths have arisen and an agricultural empire come into being that is today the marvel of the world.

It is with a view to still further enlargement of this agricultural empire that the United States Reclamation Service was called into being, and for the promotion of this purpose all of its regulations have been established.

EXPLANATION OF RECLAMATION ACT.

On June 17, 1902, the Reclamation Act was made a law by the signature of President Roosevelt. The substance of this act is that all moneys received from the sale and disposal of public lands in Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington and Wyoming, beginning with the fiscal year ended June 30, 1901, including the surplus of fees and commissions in excess of allowances to registers and receivers, and excepting 5 per cent of these amounts which is set aside for educational and other purposes, be set aside and appropriated as a special fund in the treasury to be known as the "reclamation fund," to be used in the examination and survey for, and the construction and maintenance of, irrigation works for the storage, diversion and development of waters for the reclamation of arid and semi-arid lands in the said states and territories.

The public lands so reclaimed are subject to homestead entry, and there is absolutely no charge for the land itself; but the settler must pay to the United States, in not more than ten annual installments—without interest—his proportion, according to the number of acres he owns, of the amount expended by the United States in reclaiming his land.

LIBERALITY OF THE GOVERNMENT.

To make it an inducement for settlers to seek reclaimed land the government supplies the land, constructs the irrigation works, divides the land into small farm units comprising 10, 20, 40, 80 and 160 acres, makes no charge for the land and gives the irrigation improvements to the settler for just what they have cost, payments for the improvements to be made in ten years, including ten annual payments without interest.

The great advance in the work of reclaiming waste land is shown in our map of over 30 great irrigation projects, the lands thus reclaimed including hundreds of thousands of acres, every one of which will be, or is already, occupied by intelligent agriculturists.

Detailed information as to areas open to settlers may be obtained by addressing the Statistician of the Reclamation Service, Washington, D. C., or the Information Bureau, Reclamation Service, 802 Federal Building, Chicago, Ill.

Where Government Land Offices Are Located.

GOVERNMENT IRRIGATION PROJECTS. HOMESTEAD ENTRY FOR PUBLIC LAND.

May Be Made at Any One of the Following Land Offices:

State.	Project.	Land Office.
Arizona	Salt River	Phoenix.
Arizona	Yuma	Phoenix.
California	Yuma	Los Angeles.
California	Orland	Sacramento.
California	Klamath	Redding and Susanville.
Colorado	Uncompahgre	Montrose.
Idaho	Minidoka	Hailey.
Idaho	Boise	Boise.
Kansas	Garden City	Dodge City.
Montana	Huntley	Billings.
Montana	L. Yellowstone	Miles City.
Montana	St. Mary	Great Falls.
Montana	Sun River	Great Falls.
Nebraska	North Platte	Alliance.
Nevada	Truckee-Carson	Carson City.
New Mexico	Carlsbad	Roswell.
New Mexico	Hondo	Roswell.
New Mexico	Leasburg	Las Cruces.
New Mexico	Rio Grande	Las Cruces.
North Dakota	Buford-Trenton	Williston.
North Dakota	L. Yellowstone	Williston.
North Dakota	Williston	Williston.
Oregon	Klamath	Lake View.
Oregon	Umatilla	La Grande.
South Dakota	Belle Fourche	Rapid City.
Utah	Strawberry Valley	Salt Lake City.
Washington	Okanogan	Waterville.
Washington	Sunnyside	North Yakima.
Washington	Tieton	North Yakima.
Wyoming	North Platte	Cheyenne.
Wyoming	Shoshone	Lander.

Publication approved July 28, 1910. FRANK PIERCE, Acting Secretary.

ARIZONA SALT RIVER PROJECT.

Reservoir Area, 25 Square Miles. Irrigates 190,000 Acres.

This project involves the construction of a storage dam at Roosevelt, Arizona, a reservoir with an area of 25.5 square miles, and a capacity of 1,284,000 acre-feet, or enough water to cover 1,284,000 acres one foot in depth. The Roosevelt dam is of rubble masonry 280 feet high, 235 feet long on the bottom and 1,080 feet long on top. Its purpose is to regulate the flow of Salt River. When needed for irrigation the water is allowed to flow down the river from the dam for forty miles, where it is diverted by means of the Granite Reef dam into two canals, one on each side of the river. These canals carry water to about 190,000 acres of land in the vicinity of Phoenix and Mesa. The diversion dam is a rubble concrete weir 38 feet high and 1,100 feet long. The irrigation system includes about 469 miles of canal.

Sends Electric Power Ninety Miles.

A power canal 18½ miles long, having a capacity of 200 second-feet, has been constructed and used to develop 4,400 horsepower which is utilized by all the accessory plants incidental to the work of construction. On this line are tunnels aggregating a total length of 9,780 feet. A power-house and a transformer house have been constructed immediately below the dam and the power developed is transmitted electrically about 90 miles down the valley, where it will be used partly to pump water from underground sources to extend the irrigable area to about 50,000 acres of high lands in the Gila Indian Reservation and in Salt River Valley, and for drainage purposes. A large amount will be available for other purposes. A cement mill erected and operated by the Government furnished the cement used in the construction work, the dam alone requiring about 280,000 barrels.

Evaporation of Water Four Feet a Year.

The lands under this project surround Phoenix, the capital of the state, and are situated in Maricopa County, in Townships 7 North to 2 S., Ranges 2 W. to 14 E. The general elevation is 1,000 to 1,300 feet above sea level; temperature, maximum, 120 degrees; minimum, 20 degrees; mean, 70 degrees; rainfall, 3 to 10 inches. The watershed area is 6,260 square miles, with an additional 6,000 square miles on Verde River. The average annual rainfall on watershed is from 10 to 20 inches, and the estimated annual run-off of watershed is 800,000 acre-feet at Roosevelt dam and 500,000 acre-feet from the Verde. The duty of water is four acre-feet per annum. That is, four feet depth of water is required on this land each year.

A Wide Variety of Crops.

The valley is traversed by the Santa Fe and Southern Pacific Railroads, which connect it with the towns of the State, the Pacific coast cities and the eastern fruit markets. The soil is an alluvial deposit of great fertility and adapted to the cultivation of a wide variety of crops, including those of the temperate and semi-tropical zones. The public lands in the project have all been filed on, but there are many large holdings of private lands which must be subdivided and sold to actual settlers, as no water right can be sold for more than 160 acres under the Reclamation Act.

Roosevelt Dam.

The Roosevelt dam is now completed, and the remainder of the project will probably be completed by the end of the year 1912. Water is now being furnished to about 131,000 acres of land and this area will likely be increased by several thousand acres during the coming season. During the current year the beet sugar industry has been proven a success in this valley, netting the growers handsome returns even under adverse conditions. Forage and grain crops, fruits and vegetables of all kinds produce well and command high prices in the local markets. Electric power is now furnished to the valley from the Roosevelt power plant.

Items of Historical Interest.

The most interesting historical fact concerning this valley is that it shows prehistoric settlement—not only by the cliff dwellings which are found in the mountain fastnesses, but in the many signs of prehistoric dwelling and irrigation in the valley. Casa Grande, the ruins of a "great house," is one of the most interesting of all ruins to the ethnologist. It is not known how old is this house of four stories. The wall surrounding it is 400 feet long, a rectangle, and inside of it were many rooms. The Franciscan friars who accompanied Coronado on his exploring expedition through this country in 1540 reported these ruins as existing then. The once irrigated fields of the mysterious people who lived here spread away for miles and many definite evidences of a complete prehistoric irrigating system have been discovered, some of the present canals following exactly the prehistoric grades.

ARIZONA-CALIFORNIA YUMA PROJECT.

A First-Class Land for Oranges and Semi-Tropical Fruits—Clear Skies.

This project involves the diversion of the waters of Colorado River by means of Laguna dam, a structure of the India-weir type, about 10 miles north of Yuma, Ariz., into two canals, one on each side of the river. This dam was completed in March, 1909. It is about 19 feet high, 4,780 feet long, and 260 feet wide up and down stream. By a unique arrangement at the headgates of the canals the waters of this muddy stream are drawn off comparatively clear. The distribution system consists of 157 miles of canals. A complete system of levees with a length of 73½ miles has been constructed to protect the bottom lands from overflow, and a pumping system will be utilized to remove the surplus waters from the low lying areas.

Indian Reservation.

On the Indian Reservation 173 farm units were opened to entry on March 1, 1910, and many of the entrymen are already clearing and leveling their farms. The cost of the water right is $55, payable in not more than ten annual installments, with an annual charge of $1 for operation and maintenance. There is also a charge of $10 for the price of the Indian lands, payable in not more than ten annual installments.

Frostless Lane.

The bottom lands comprise 17,000 acres in the Yuma Indian Reservation in California, 20,000 acres in the Gila River Valley, in Arizona, and 53,000 acres in Colorado River Valley, in Arizona. When the system is extended to include the mesa, or table lands, south of Yuma and east of the bottom lands in Arizona, about 40,000 acres of practically frostless land will be available for the cultivation of oranges, lemons, grapefruit, limes, olives, vegetables, etc.

These lands are not subject to entry. The cost of water right has not been fixed but will be announced before the lands are opened.

The soil is rich alluvial deposit and produces enormous crops when water is applied. Alfalfa, grains, vegetables, sugar beets, nuts, melons, fruits, cotton, cane, corn, etc., are grown.

Railroad Facilities.

The Southern Pacific Railroad, which crosses the project at Yuma, furnishes transportation facilities to Arizona towns, and the Pacific coast and eastern markets. The watershed area is 200,000 square miles, and the estimated annual run-off is 11,000,000 acre-feet. The lands lie at an elevation of 100 to 300 feet above sea level, and the temperature ranges from 22 to 118 degrees above zero. The nights are cool and on account of the dryness of the atmosphere the sensible temperature is much lower than the thermometer indicates.

CALIFORNIA ORLAND PROJECT.

A Land for the Almond, English Walnut, Citrus and Deciduous Fruits.

This project contemplates the reclamation of 14,000 acres of land lying about 90 miles north of Sacramento in Glenn and Tehama counties. The towns within the territory to be irrigated are Orland, Greenwood and Malton, on the Southern Pacific Railroad. The lands, which are practically all in private ownership, are exceedingly fertile, and for many years have been cultivated and utilized for wheat growing. The soil is a gravelly loam, and with irrigation and the prevailing climatic conditions it has been demonstrated that the land is excellent for the production of alfalfa, nuts, including the almond and English walnut, and both citrus and deciduous fruits. The general elevation is from 175 to 380 feet above sea level; the temperature, maximum, 120 degrees; minimum, 26 degrees; average annual rainfall on the irrigable lands, 17 inches. The duty of water is 3 to 3½ acre-feet per annum. The watershed area is 790 square miles. The average annual rainfall on the watershed is 25 inches, and the estimated annual run-off on watershed 541,000 acre-feet.

The engineering features of the project consist of a storage reservoir controlled by the East Park dam, on Stony Creek, at a point about 40 miles above Orland, and a diversion dam situated at Miller Buttes for diverting water into two canals, one on each side of the creek, covering lands in the vicinity of Orland. The storage dam is of concrete masonry, gravity section, 139 feet high from bed rock, 40 feet long on the bottom and 250 feet long on top. The diversion dam is of sheet piling capped with concrete, 900 feet long. The canal system includes 25 miles of main canal and 80 miles of laterals. The farmers are pledged to dispose of their holdings in excess of 160 acres to bona fide settlers under the terms of the Reclamation Act.

In the spring of 1911 the greater part or the whole of this project will be opened. No water has been supplied during 1910 other than a small quantity of flood water.

COLORADO GRAND VALLEY PROJECT.

The Apple and Peach Orchards and Cantaloupes Worth $1,000 per Acre.

This project is planned to irrigate about 53,000 acres of land in Mesa County, Colorado. The work involves the construction of a diversion dam in Grand River, about 60 miles of main canal, and a series of short tunnels on the first few miles of canal having an aggregate length of about 20,000 feet. It is probable that considerable power will be developed at drops in the canal, and used to pump water to elevations above the main canal.

15 Below to 100 Above.

The average elevation of the irrigable area is 4,700 feet above sea level; the temperature ranges from 15 degrees below to 100 degrees above zero, and the rainfall on the irrigable area is from 6 to 11 inches annually. The watershed area is 8,550 square miles.

About 70 per cent of the land is in private ownership or has been entered under the homestead law, and the remainder will be thrown open to entry upon completion of the works. The soil is red mesa sand, black bottom sandy loam, and adobe. The duty of water is one second foot of water at the farm per 100 acres of land. The apple and peach orchards of the Grand Valley bottom lands are almost world famous, the crops frequently selling for more than a thousand dollars per acre per annum. Strawberries and cantaloupes are usually grown between the rows while the orchards are growing, also potatoes and other vegetables. Alfalfa and sugar beets are grown in other sections of the project. The Denver & Rio Grande and Colorado Midland Railroads connect the project with the markets of the Mississippi Valley and the Atlantic and Pacific coasts. There are railroad stations at Palisade, Clifton, Grand Junction, Fruita, Loma, and Mack.

COLORADO UNCOMPAHGRE VALLEY PROJECT.

330 Miles of Canals, Irrigating 140,000 Acres—15,000 Open to Entry.

This project provides for the diversion of waters of Gunnison River by means of a tunnel 30,583 feet in length, cross section 10½ by 11½ feet, cement lined, with a capacity of 1,300 second feet. The tunnel passes through a range of mountains and carries the water to Uncompahgre Valley, where it will be used to supplement the local supply and extend the irrigable area to about 140,000 acres of land. Work on the tunnel was commenced in 1904 and it is now ready to carry water. There are 330 miles of canals in the distributing system.

20 Below, 98 Above.

The lands to be irrigated lie in Montrose and Delta counties, Township 15 S., Ranges 94 to 96 W., 6th P. M., and Townships 48 to 51 North, Ranges 7 to 12 W. N. M. M. The general elevation is 5,000 to 6,400 feet above sea level and the temperature ranges from 20 degrees below to 98 degrees above zero. The watershed area is 3,850 square miles, and the estimated run-off of watershed is 1,500,000 acre-feet. The rainfall on the irrigable area is from 6 to 12 inches, and the rainfall on the watershed ranges from 7 to 20 inches.

The lands for which water is now available are all in private ownership, but upon the completion of the works about 15,000 acres will be opened to entry. The farm unit varies from 40 to 80 acres, and the duty of water is 4 acre-feet per annum at the farm. About 60,000 acres are suitable for raising first-class apples and peaches. Orchard lands produce as high as $500 per acre net in the valley. The bottom lands, comprising from 80,000 to 90,000 acres, are adapted to the growing of alfalfa and sugar beets. Farmers make as high as $80 per acre net from the latter crop, and from $100 to $200 per acre from potatoes. The Denver and Rio Grande Railroad traverses the tract, with stations at Montrose, Olathe and Delta. The principal markets are Denver and the local mining camps, although the apples are shipped also to eastern markets.

IDAHO MINIDOKA PROJECT.

507 Miles of Canals — Supplies Electric Power to Adjoining Towns.

The irrigable area under the Minidoka project consists of about 81,000 acres under the gravity system and 50,000 acres under the pumping system (127,650 acres were public, 20,886 State, and 3,147 acres private land). The lands lie on both sides of Snake River, in Lincoln and Cassia counties.

Electrical Power Developed.

The engineering work includes a diversion, power and storage dam on Snake River, at a point about 6 miles south of Minidoka, Idaho; and two canal systems, one on each side of the river, heading at the diversion dam and covering lands in the vicinity of Acequia, Rupert, Heyburn, and Burley. Power is developed at the diversion dam for generating electrical energy for pumping water to lands on the south side of the river too high to be reached by a gravity system. The diversion and power dam, three units of the power plant, and the distributing canals for the gravity system are finished, and the power and pumping plants and canals for the pumping system are about completed. The diversion dam has a height of 86 feet and a length of 650 feet and is of the earth and rock type. The distribution systems include 507 miles of canals. The power and transmission lines will have a length of from 13 to 20 miles. Contracts have been awarded to supply power to the towns on the project.

Thousand Acres to Apples.

The soil is sandy loam and volcanic ash, free from alkali, and exceedingly fertile. The sandy soil is particularly adapted to the raising of alfalfa, potatoes, beet and other root crops, as well as melons, strawberries, etc. It is also especially adapted to the cultivation of sugar beets. The ashy formation is better adapted to grain, orchards, etc. Noting the success of farmers on the nearest cultivated land the settlers under the Minidoka project planted more than a thousand acres to apples in 1908. It is believed that all fruits of a hardy variety will produce abundantly in this section.

Ample Water; Delightful Climate.

The general elevation is 4,200 feet above sea level, and the climate delightful. There is an ample water supply. The watershed area is 17,900 square miles, and the estimated annual run-off is 8,000,000 acre-feet. The average annual rainfall on the irrigable area is 14 inches.

Low Cost Water Right.

The cost of water right is $30 per acre, payable in ten annual installments, and the operation and maintenance charge for 1910 was 75 cents per acre for the gravity system. The building, operation and maintenance charges for the high areas to which water must be pumped have not been fixed.

Good Openings for Business.

The farm unit is 40 acres within a radius of 1½ miles from the center of each of the Government townsites, and 80 acres on other lands. There are some State lands which will be sold by the State Land Board at Boise, Idaho, to whom inquiries should be addressed. Lots in the Government towns may be purchased at reasonable prices upon application to the Register of the Land Office at Hailey, Idaho. There are good openings in these towns for professional men, merchants, manufacturers and laborers. The irrigable lands have all been filed on, but farms may be purchased at reasonable prices from present settlers.

IDAHO BOISE PROJECT.

Reclaims 243,000 Acres — Eight Tons of Alfalfa in Three Cuttings.

The south side unit of original Payette-Boise Project, now known as the Boise Project, when fully developed, will reclaim approximately 243,000 acres and will supplement the supply for about 79,000 acres of land in the fertile valleys of the Boise and Snake Rivers, in southwestern Idaho, which are tributary to the Oregon Short Line, the Boise, Nampa, and Owyhee, and the Idaho Northern Railroads. The lands are located in Ada and Canyon counties, Townships 1 to 4 North, Ranges 1 to 5 West and 1 to 2 South, B. M. The general elevation is 2,500 feet above sea level, and the temperature ranges from 28 degrees below to 107 degrees above zero. The thermometer rarely reaches zero, however, and freedom from wind marks the winter months. The summers are long, sunshiny, and warm, and with irrigation promote the most rapid vegetable growth. The average rainfall is 12.7 inches. The soil is of volcanic origin, free from rocks, easily worked and rich in the necessary mineral constituents. With rotation of crops and the addition of vegetable mold, it becomes richer and very productive.

Subdividing Their Holdings.

Practically all of the lands under this project have been filed upon, but some of the settlers are subdividing their holdings and offering relinquishments at prices varying with location and improvements. The farm unit has been fixed at 80 acres.

Farms in a good state of cultivation produce three to eight tons of alfalfa per acre in three cuttings, two to five tons of clover, 50 bushels of wheat and 75 bushels of oats. After the last cutting the meadows furnish pasturage. Both clover and alfalfa seed yield splendid crops. Apples, prunes, and small fruits produce well and are shipped in quantities to eastern markets. Idaho fruits command high prices. Creameries are in operation in nearly every town. Sugar beet culture is also profitable. Two trolley lines have been extended from the principal towns to cover portions of the valley.

Watershed 2,610 Square Miles.

The engineering works involved the construction of storage reservoirs on the headwaters of the Boise River. A diversion dam has been completed on Boise River, eight miles above Boise, diverting water into an inlet and distributing canal irrigating lands under it and supplying Deer Flat reservoir in the vicinity of Nampa, which has a capacity of 186,000 acre-feet. The watershed area of the Boise River is 2,610 square miles; the average annual rainfall on watershed is 25 inches and the estimated annual run-off of watershed is 1,800,000 acre-feet. The average rainfall on the irrigable area is 12.7 inches.

KANSAS GARDEN CITY PROJECT.

This Plant Consists of Twenty-three Pumping Stations, Electrically Driven.

This project consists of a pumping system for the recovery of underground waters which are delivered into a conduit leading to an old distributing canal known as "The Farmer's Ditch." The plant consists of twenty-three pumping stations, each driven electrically from a central power station. There are 10,677 acres of irrigable land in the project, lying in the vicinity of Garden City, on the north side of Arkansas River, Townships 23 to 24 S., Ranges 32 to 34 W., Sixth Principal Meridian, Finney County.

The lands are all in private ownership, but there are some excess holdings for sale. The soil is a rich, prairie loam capable of the highest cultivation and well adapted to the raising of grain, sugar beets, cantaloupes, alfalfa, and other crops of the plains region. The average elevation of the area under this project is 2,925 feet above sea level, and the temperature ranges from 20 degrees below to 105 degrees above zero. The Atchison, Topeka & Santa Fe Railway furnishes transportation for the products to the local markets and to Chicago and Kansas City. The water right charge is $37.50 per acre of irrigable land, and the farmers are also required to pay an annual maintenance and operation fee which at present amounts to $2.75 per acre.

MONTANA BLACKFEET PROJECT.

Five Proposed Canal Systems Reclaim 132,000 Acres.

This project, which is being built for the Indian Service, involves the immediate reclamation of 50,000 acres of land in the Blackfeet Indian Reservation, Teton County, Montana, and the ultimate reclamation of 132,000 acres total under five proposed canal systems. The first construction involves the diversion of water from the left bank of Two Medicine River immediately below the confluence of Little Badger Creek, and its conduction to lands in the east-central portion of the Reservation. The lands lie at an elevation of approximately 3,850 feet and range in temperature from 40 degrees below zero to 100 degrees F. The soil is rich sandy loam, producing abundantly with sufficient moisture, the average rainfall being about 16 inches, but varying materially. Some hay and grain and excellent pasturage are produced without irrigation. The land can be irrigated with little leveling or preparatory work, and excellent crops of grain, alfalfa, potatoes and other vegetables can be produced. The lands to be irrigated by the first system now being constructed lie east of the town of Cut Bank and adjacent to the Great Northern Railway which furnishes transportation facilities. Other stations on the Great Northern Railway from which the lands can be reached are Opal, Seville, Bombay, Blackfeet and Browning. The main canal and a portion of the distribution system of the Two Medicine Unit will probably be completed in time for irrigation season 1911. No entry can be made until formal notice has been given by the Secretary of the Interior, at which time the cost per acre for water right, the size of farm unit and method of filing will be made public.

Opportunities Offered on Irrigated Land in Montana.

MONTANA HUNTLEY PROJECT.

Towns Close Together — Two Transcontinental Railroads — All Towns Near Railroads.

This project contains about 30,000 acres of irrigable land located along the Yellowstone River, in Yellowstone County. As the lands are a part of the ceded strip of the Crow Indian Reservation settlers are required to pay $4.00 per acre to the Indians—one dollar at the time of entry and seventy-five cents annually for four years, beginning with the second year. In addition to this the Government charges the settler the cost of building the irrigation works, which is $30.00 per acre, payable $3.00 per acre per annum for ten years. The payments may be made in fewer installments if desired. A further annual charge of 60 cents per acre for operation and maintenance is made. The first payment of $4.60 becomes due when the land is filed upon.

Delightful Climate.

The general elevation of this part of Montana is 3,000 feet above sea level, its climate is delightful and the soil varying from light sandy loam to heavy clay produces abundant crops when properly watered. The principal products are alfalfa, forage, cereals, sugar beets, vegetables, apples and small fruits. The farm units vary from 40 to 160 acres, depending upon location, and average 40 acres of irrigable land. The irrigated land in this section is worth from $75.00 to $200.00 per acre according to the state of cultivation and the crops grown.

Two transcontinental lines of railroad—the Northern Pacific and the Chicago, Burlington and Quincy—traverse the tract its entire length, and eight towns have been laid out on these lines at intervals of five miles, so that no farm is more than three miles from a shipping point, and the average distance of all farms from a railroad station is only 1⅝ miles. There is a fine free range country adjoining the project, and the live stock industry affords a permanent home market for alfalfa. The railroads furnish excellent transportation facilities to Chicago, St. Paul and Minneapolis, Omaha, Denver and nearby cities.

Unusually Good Opportunities.

Schools and churches have been established and the towns offer unusually fine opportunities for professional and business men, manufacturers, laborers, etc. The town lots have been appraised, and may be purchased at the land office at Billings, Montana.

Water to Each Farm.

The engineering works consist of a system of canals having a length of 268 miles, which deliver water to each farm. The headworks, culverts and other structures are of reinforced concrete and the three tunnels with an aggregate length of 2,653 feet are lined with cement. The pumping plant near Ballantine is a novel feature, as the drop of water from the main canal is made to lift a portion of the water to a higher level to supply the High Line canal. Vertical turbines and centrifugal pumps are mounted on the same shaft and the operation is nearly automatic. More than 200 farms under this project are still subject to entry.

MONTANA MILK RIVER PROJECT.

Reclaims 248,000 Acres—Many Towns and Railway Stations in Milk River Valley.

This project contemplates the ultimate reclamation of about 248,000 acres of land in the Milk River Valley between Chinook and Glasgow in Chouteau and Valley counties, Montana. About 50 per cent of this area is public land. The average elevation is 2,200 feet above sea level and the temperature varies from 45 degrees below zero to 100 degrees F. The soil is sandy loam and clay, well adapted to the raising of hay, grain, vegetables, alfalfa, sugar beets and other products of the north temperate zone. The Dodson dam has been completed and from the reservoir water will be diverted into the canals on each side of the river. The Dodson South canal has now been completed and about 10,000 acres of land was irrigated during the season of 1910. This canal covers lands extending from Dodson to Nelson Lake Reservoir, from whence it is expected to construct another canal to cover lands between that point and Glasgow. There are many towns and railway stations in the Milk River Valley, all being upon the Great Northern Railway, which traverses its entire length.

375 Miles Main Canal.

In addition to the regulation of the discharge of Milk River, the water supply will be supplemented from St. Mary Lakes. The discharge of St. Mary basin will be stored and conducted by a canal 25 miles to the head waters of Milk River. The engineering features involve storage and several diversion dams, 375 miles of main canal and an extensive lateral system. It is expected that following the completion of the Dodson South Canal and the supplying of water to the lands thereunder successive units will be developed in order that additional areas may be irrigated as rapidly as possible.

MONTANA SUN RIVER PROJECT.

Reclaims 276,000 Acres — Grazing Land Included With Farm Units.

The lands under this project are located in Teton, Lewis and Clark, Chouteau and Cascade counties, about 25 miles from Great Falls. Sun River Valley is about 70 miles long and from one to five miles wide. The ultimate development of the project involves the reclamation of 276,000 acres of land. A compact body of 16,000 acres, known as the Fort Shaw Unit, has been opened to entry and is being rapidly settled.

No Brush to Be Cleared.

The soils are sandy loam, clay, adobe, and alluvium. There is no sage or other brush to be cleared. The principal crops are alfalfa, hay, grain, vegetables and sugar beets. The general elevation is 3,700 feet above sea level and the temperature ranges from 40 below to 100 degrees above zero. Fine grazing lands surround the project. The farm units vary from 40 to 160 acres of land. Wherever practicable, a tract of grazing land is included in the farm unit.

The watershed area consists of 850 square miles on Sun River and 290 square miles on Deep Creek, and the estimated annual run-off is about 700,000 acre-feet. The average annual rainfall on the irrigable area is 12 inches.

Homestead Farms Obtained.

Farms under this project are obtainable under the homestead law, subject to the charges of actual cost of water upon the land. This charge has been fixed at $3,000 per acre of irrigable land in not more than ten annual installments. At present the operation and maintenance charge is 50 cents per acre per annum, and the sum of $3.50 per acre is due and payable at the time of making entry.

Villages Close Together.

An interesting feature in connection with this project is the establishment of villages every six miles. In connection with the Fort Shaw Unit already opened the villages of Fort Shaw and Simms have been established and town lots may be purchased at the local land office at Great Falls.

MONTANA-NORTH DAKOTA LOWER YELLOWSTONE PROJECT.

Several Thriving Villages on This Project — Abundance of Lignite Fuel in the Vicinity.

The project provides for the diversion of water from the Yellowstone River at a point 18 miles northeast of Glendive, Montana, and will ultimately irrigate 65,000 acres of land, for 47,000 acres of which the works have been completed and the water is now available. Two-thirds of the lands to be irrigated are in Montana, the balance in North Dakota. The lands are traversed by the line of the Missouri River Railway, grading for which has been completed and trains will be operated over same in the fall of 1910. The lands are also tributary to the Great Northern Railway on the north and the Northern Pacific Railway on the south.

Soils Easily Cultivated.

The general elevation is 1,900 feet above sea level, and the temperature ranges from 30 degrees below to 100 above zero. The soil is a deep, sandy loam, easy to cultivate and very fertile. Alfalfa, the great forage crop of the West, is especially adapted to the soil and climate. Small grains are raised with success and it is believed that sugar beets will be a profitable crop. The crop yields for 1909 were abundant. There are several thriving villages on the project. Minneapolis, St. Paul and local towns furnish markets for the produce. The average rainfall is 16 inches. Surrounding the project is one of the largest and best grazing areas in the United States, providing a fine range for vast numbers of cattle and sheep. An abundance of lignite for fuel is found throughout this section.

The principal engineering features consist of a diversion dam 12 feet high and 700 feet long, 146 miles of canals and the development of 290 horsepower.

Lands $3 Per Acre.

The building charge has been fixed at $42.50 per acre of irrigable land, payable in not more than ten annual installments, each not less than $4.25 per acre. The annual charge for maintenance and operation is $1.00 per acre. The lands have practically all been filed on but as the farm unit has been fixed at 80 acres many of the settlers will be obliged to relinquish a portion of their holdings. In addition to these relinquishments the irrigable railroad lands are on the market and may be purchased at $3.00 per acre. Private lands may also be purchased at prices varying from $15.00 to $25.00 per acre and considering quality of land, location and productiveness, are very low priced.

NEBRASKA-WYOMING NORTH PLATTE PROJECT.

150 Miles of Canals — Capacity of Reservoir, 1,025 Feet — Watershed, 12,000 Square Miles.

This project is located about 100 miles north of Cheyenne, Wyoming, and extends along the North Platte River. About 80,000 acres of land practically all of which has been filed upon will be supplied with water in 1910. The land is tributary to the Chicago and Northwestern, Burlington and Missouri River, and Union Pacific Railroads. The average elevation is 4,100 feet above sea level, and the temperature ranges from 25 degrees below to 100 degrees above zero. The average annual rainfall on the irrigable area is about 15 inches.

Soil Very Fertile.

The soil is a fertile, sandy loam, quite free from alkali, and requiring 2½ acre-feet of water per acre per annum. Alfalfa is the principal crop, but cereals, sugar beets and potatoes are successfully grown. Excellent range country borders the irrigable lands in Wyoming.

The farm unit has been fixed at 80 acres, and the building charge is $45 per acre. There will be an annual charge for operation and maintenance after the second year. All accrued installments must be paid at the time of entry. The watershed area is 12,000 square miles, and the estimated annual run-off of watershed at Pathfinder dam is 1,500,000 acre-feet.

Canal 150 Miles Long.

The principal engineering features consist of a storage dam forming what is known as The Pathfinder Reservoir on the North Platte River, about 50 miles southwest of Caspar, Wyoming, a diversion dam 150 miles down the river at Whalen, Wyoming, and the interstate canal 150 miles long. The Pathfinder dam is a concrete rubble masonry arch 218 feet high and 432 feet long on top. It is completed and the reservoir has a capacity of 1,025,000 acre-feet. The diversion dam at Whalen is a reinforced concrete weir 25 feet high and 300 feet long. A diversion dam is also planned to be constructed at Guernsey, Wyoming, for diverting water into a canal to cover lands in Goshen Hole, in eastern Wyoming and western Nebraska, which are now withdrawn from entry.

The lands in Wyoming must be filed on at the land office at Cheyenne, Wyoming, and those in Nebraska at the land office at Alliance, Nebraska.

NEVADA TRUCKEE-CARSON PROJECT.

Canals, 600 Miles — Irrigates 260,000 Acres — Contains Several Storage Reservoirs — Homesteads Open to Entry.

This project is located in western Nevada, in Churchill, Lyon and Storey counties, Townships 17 to 20 North, Ranges 17 to 31 East, M. D. M. The first unit of the project was opened in 1907 and lands are now subject to homestead entry. In addition to the land office filing fee each settler is required to pay $3 per acre annually for ten years, without interest on deferred payments. An annual maintenance fee of 60 cents per acre is charged in addition. The first payment of $3.60 per acre must be paid at the time of filing on the land. The farm unit is 80 acres.

Three Feet Depth Water Required.

The climate in this valley is healthful and mild. The elevation above sea level is about 4,000 feet, and the temperature ranges from zero to 112 degrees F. It is so dry, however, that the extremes, which seldom occur, are not injurious. The average rainfall on the irrigable area is 4 inches per annum. The soil is sandy loam, clay loam, and volcanic ash, requiring 3 acre-feet of water per annum for each acre. The valley will produce every variety of crop grown in the north temperate zone. Alfalfa, wheat, barley, and oats grow luxuriantly, and corn is also a profitable crop. Apples, pears, peaches, apricots, cherries, potatoes and garden vegetables do well and find a ready market in the nearby mining towns. The Southern Pacific and Nevada and California Railroads traverse the tract and furnish transportation to the markets of the country.

The watershed area is 3,450 square miles, the annual rainfall on the watershed, 25 inches, and the estimated run-off, 1,000,000 acre-feet.

Homesteads Open for Entry.

A dam has been built on Truckee River, near Wadsworth, to turn the flow of the stream into a canal 31 miles long, which carries the waters to Carson River. Here a diversion dam turns the waters as needed into two main canals. The first unit of this project, which is now complete, involves more than 600 miles of canals and laterals, 50,000 feet of dikes and the dams on Truckee and Carson Rivers. The project in its entirety will irrigate about 260,000 acres of land and will involve the construction of several storage reservoirs and the development of power. A limited number of homesteads are at present open to entry.

NEW MEXICO CARLSBAD PROJECT.

Principal Crops, Peaches, Pears, Apples, Cherries, Small Fruits, Alfalfa, Cotton and Garden Truck.

The principal works under the Carlsbad project include the reconstruction of canals and storage reservoirs on Pecos River, in Eddy County, which were built to irrigate about 20,000 acres of land. These lands are all in private ownership, but several thousand acres are included in excess holdings and may be purchased. The price of these lands varies from $20 to $60 per acre. The cost of water right is $31 per acre, payable in ten annual installments, and the annual maintenances and operation fee is $1.35 per acre.

The general elevation is 3,100 feet above sea level, and the temperature ranges from zero to 110 degrees above. The soil is a light, sandy alluvium, and very fertile. The principal crops in the valley are peaches, pears, apples, cherries, small fruits, alfalfa, cotton, sweet potatoes, celery and garden truck. Fodder, corn, cane and milo maize produce good crops. Stock raising is very profitable, owing to the extensive range lands on the east and west. The Santa Fe Railway furnishes transportation facilities to nearby markets and to Denver and Chicago.

The watershed area is 22,000 square miles, the average annual rainfall on watershed area is 16 inches, and the estimated annual run-off, 150,000 acre-feet. The average annual rainfall on the irrigable area is 15 inches.

NEW MEXICO HONDO PROJECT.

Fertile Alluvium Soil Growing Alfalfa, Corn, Fruits and Vegetables in Abundance.

The Hondo project provides for the diversion and storage of the flood waters from Hondo River, a tributary of the Pecos, to irrigate 10,000 acres of land in Chaves County, near Roswell. The lands are all in private ownership, but excess holdings may be purchased at reasonable prices. The general elevation is 3,750 feet above sea level, and the temperature ranges from 0 to 100 degrees above zero. The soil is a fertile alluvium and requires 2½ acre-feet of water per acre per annum. Alfalfa, corn, fruits and vegetables produce abundantly when properly watered. The Santa Fe Railway furnishes transportation facilities.

The watershed area is 1,037 square miles, the average annual rainfall on watershed is 17 inches, and the estimated annual run-off is 40,000 acre-feet.

NEW MEXICO-TEXAS RIO GRANDE PROJECT.

Reservoir 190 Feet Deep at Lower End — Dam 265 Feet High, 45 Miles Long, With Storage Capacity of 2,538,000 Acre-Feet.

This project contemplates the reclamation of 185,000 acres of land, 110,000 of which are in New Mexico, 45,000 in Texas, and 25,000 in Mexico, which are provided for by the Treaty proclaimed January 16, 1907.

Connects With Old Canal.

The Leasburg dam for the first unit of the Rio Grande project is completed, diverting water for 25,000 acres in Mesilla Valley. It is of concrete, 600 feet long, with sluice and head gates. From the diversion dam six miles of canal were constructed to connect with the old Las Cruces Canal.

Reservoir 45 Miles Long.

The Engle dam, which is planned to be constructed across the Rio Grande, opposite Engle, will be rubble concrete gravity type, 265 feet high, 1,480 feet long on top, and will create a reservoir 190 feet deep at its lower end and 45 miles long with a storage capacity of 2,538,000 acre-feet. Work is being prosecuted rapidly. The valley has good railroad facilties and contains many thriving towns, of which El Paso, Texas, is the metropolis.

Requires 2½ Feet Water.

The general elevation is 3,700 feet above sea level and the temperature ranges from zero to 100 degrees above. The average annual rainfall on the irrigable area is 9.5 inches. The soil is a fertile alluvium, requiring 2½ acre-feet of water per acre per annum. It produces abundant crops when sufficient water is applied, the principal products being alfalfa, corn, fruit, vegetables and melons.

Watershed 37,000 Square Miles.

The watershed area is 37,000 square miles; the average annual rainfall on watershed is unknown, but the estimated annual run-off is 800,000 acre-feet.

NORTH DAKOTA PUMPING PROJECTS.

Pumps Run by Power Obtained From Lignite Coal — Pumps on Floating Barges.

The Government has two pumping projects in western North Dakota which raise water from the Missouri River to irrigate bench lands which cannot be reached by feasible gravity systems.

Williston Project—The initial unit of this project includes about 8,000 acres of bench and valley lands surrounding Williston, but the system may be enlarged to cover 12,000 acres. The general elevation is 1,875 feet above sea level, and the temperature ranges from 45 degrees below to 107 degrees above zero. The soil of the bottom lands is a heavy clay, but the bench lands are a rich, sandy loam, requiring 2 acre-feet of water per acre per annum. The principal crops grown are wheat, flax and oats. The supply of oats is always far short of the demand.

For Winter Feed.

Alfalfa is profitable grown for winter feed, and sugar beets are likely to become an important crop. Small fruits do well and dairy farms and market gardens are needed. The State experiment farm, near Williston, is of assistance in demonstrating the value and methods of irrigation to the farmers.

Government Townsite.

The main line of the Great Northern Railroad passes through Williston, which is the distributing point for a large area north and south of it. Land has been reserved for a Government townsite about eight miles north of Williston. A daily rural delivery is maintained over the project.

The building charge on this project has been fixed at $38.00 per acre of irrigable land, payable in not more than ten annual installments, each not less than $3.80 per acre. An additional annual charge of 70 cents per acre is also required for operation and maintenance, and 50 cents per acre-foot of water actually pumped and delivered for irrigation in any one year. The first installment of $4.50 per acre is due and payable at the time of filing water right application.

Power From Lignite Coal.

The engineering features are unique. On account of the low fall of the river gravity canals were not feasible, and pumping was resorted to with power generated with lignite coal, vast deposits of which are found in this vicinity, on Government land. The power plant is located near one of the coal outcrops, the fuel being mined and delivered by gravity to the boilers. The power is converted to electricity and transmitted to the various pumping stations, some of which are 28 miles distant. On account of the unstable character of the river banks the pumps have been placed on floating barges connected to the shore by flexible pipes. The water is pumped to settling basins from which canals carry it over the lands.

Power Distributed 28 Miles.

Buford-Trenton Project — This project embraces about 12,500 acres of bench and bottom lands bordering the north bank of the Missouri River for about twenty miles east of the Montana-North Dakota State line, and lying along the Great Northern Railroad. Power for the pumps on this project is developed at the main power station at Williston, and is transmitted electrically over a transmission line 28 miles long.

Required to Sell.

The climate and crop conditions are practically the same as those at Williston. Practically all the land is in private ownership, but farmers owning more than 160 acres are required to sell their excess holdings, and farms can be bought at from $15.00 to $25.00 per acre.

Grazing Land Included.

The farm unit for public lands is from 40 to 80 acres of irrigable land, depending upon location, and wherever practicable a tract of grazing land has been included in the farm unit bringing the total up to 120 or 160 acres. The building, operation and maintenance charge and charge for water actually pumped are the same as under the Williston project.

OREGON UMATILLA PROJECT.

Climatic Conditions Favorable for Early Ripening and Marketing of Small Fruits —Bees Very Profitable.

The Umatilla project is located 190 miles east of Portland, Oregon, in Umatilla County, and contains about 25,000 acres of irrigable land bordering upon Columbia River immediately east of Umatilla River. Water is now available for 15,000 acres principally in private ownership. Some excellent homesteads, however, yet remain open to entry. Lands may be purchased from settlers having holdings in excess of 160 acres. In the spring of 1911 the fourth unit of about

5,000 acres with a large number of good homesteads was opened to entry. The farm unit on public lands is limited to 10 or 20 acres.

Building Charges.

The total building charge is $60 per acre, and the annual operation and maintenance at present is $1.30 per acre. The building charge may be paid in not more than ten annual payments, each not less than $6 per acre. With all new entries, or water right applications, payment must be made of all accumulated charges.

Very Fine Honey Produced.

The land to be irrigated all lies below an elevation of 600 feet above sea level. Climatic conditions are extremely favorable for the early ripening and marketing of small fruits, for which the soil is especially suited, as well as for the raising of all kinds of deciduous fruits. Alfalfa is profitably grown, but the land is too valuable for pasture crops. Hogs and poultry raising pay well, and bee colonies are very profitable, the honey being exceptionally fine. Not only is the land fertile in a high degree, and the climate such as will permit of the raising of high-priced crops, but the transportation facilities are of the best. In addition to the Oregon Railroad and Navigation Company's line, which skirts the western end of the project, and the Spokane branch, running through the northern portion, there will be available the Columbia River, which, as soon as the Celilo Locks, now under construction, are completed, will afford open navigation to Portland and Astoria. The Northern Pacific has built a line of railroad from Pasco to Portland, on the north bank of the Columbia.

Watershed 1,610 Square Miles.

The watershed area is 1,610 square miles, the average rainfall on watershed 20 inches, and the estimated annual run-off 530,000 acre-feet. The average annual rainfall on the irrigable area is 9 inches.

Distributing Canals 133 Miles.

The engineering works include a storage reservoir having a capacity of 50,000 acre-feet, which is supplied with water by an inlet canal from the Umatilla River. There are 133 miles of distributing canals. A by-pass canal has been constructed through which water may be turned from the inlet canal directly into the distributing system without passing through the reservoir.

Opportunities for Business.

There are good opportunities for merchants, mechanics and professional men in the towns of Hermiston, Umatilla and Echo, which are growing rapidly.

OREGON-CALIFORNIA KLAMATH PROJECT.

To Be Reclaimed, 127,000 Acres, Improving Lake and Swamp Bottoms.

The Klamath project contemplates the reclamation of 127,000 acres of land situated in Klamath County, Oregon, and Modoc and Siskiyou counties, California. The plans involve, in addition to the irrigation of the valley lands, the reclamation by drainage and future irrigation of a portion of the Lower Klamath and Tule Lakes, lands which are now either swamp or lake bottoms. Practically all the uplands, which include the greater part of the project, are held in private ownership, much being in large holdings which, under the terms of the Reclamation Act, must be subdivided into tracts of not to exceed 160 acres, as this is the maximum area for which water can be furnished to individual owners. The public lands under the project, which include a large portion of the lake and swamp areas, are at present withdrawn from entry. When these are restored to entry homesteaders may file applications for available lands.

Potatoes an Important Crop.

The general elevation of the irrigable area is 4,100 feet above sea level, and the temperature ranges from 5 degrees below zero to 100 degrees above. The soil is exceedingly fertile, being decomposed basalt with rich deposits on the lake bottoms. The duty of water is 1.8 acre-feet per acre per annum. The principal crops grown are alfalfa, wheat, oats, barley, rye, vegetables, and some deciduous fruits. Potatoes are an important crop, the yield and quality being excellent. The climate is especially adapted to dairying and stock raising and forage crops grow to perfection.

The principal town is Klamath Falls, located on Link River, and having about 2,500 inhabitants. Other towns in the valley are Merrill, situated near Tule Lake, Bonanza, on Lost River, within the so-called Upper Project, and several villages. The California and Northeastern Railway, a branch of the Southern Pacific road, is now built through the project, and affords transportation for the farm products to Portland, San Francisco and other coast markets.

Watershed 3,700 Square Miles.

The entire watershed area is 3,700 square miles, and the estimated run-off, 1,700,000 acre-feet. The annual average rainfall on the watershed area is 20 inches, but the rainfall on the irrigable area is only 15 inches.

Maintenance 75 Cents Per Acre.

The building charge for the first unit of this project has been fixed at $30 per acre of irrigable land, and the operation and maintenance charge at present is 75 cents per acre each year. All installments for building and operation and maintenance, each $3.75 per acre, then due, must be paid at the time of making water right application.

Opportunities in South Dakota and Utah Irrigated Land.

SOUTH DAKOTA BELLE FOURCHE PROJECT.

Reclamation of 102,000 Acres Contemplated — Little North of the Black Hills.

When completed this project will reclaim about 102,000 acres of land lying north and northeast of the Black Hills, in Butte and Meade counties, South Dakota. Only part of this land has been filed on. Water is now available for about 47,000 acres. There is a large amount of land in private ownership which, on account of the limit of the individual water supply to 160 acres, is offered for sale at from $20 to $30 per acre, depending upon improvements and location. The farm unit on public lands is 80 acres, except within two miles of townsites, where it is 40 acres. Settlers are required to pay a building charge of $30 per acre, and an annual charge of 40 cents to 60 cents per acre for operation and maintenance.

Excellent Market in Black Hills.

The average elevation is 2,800 feet above sea level. The climate is delightful, with little snow in winter, the temperature ranging from 20 degrees below to 95 degrees above zero. As in other parts of the arid region, the sensible temperature does not vary so much, owing to the dryness of the atmosphere. The soil is about equally divided between clay loam and sandy loam, exceedingly fertile and free from excessive alkali. Fruits, such as apples, cherries, plums, and small fruits, do well, especially on the higher portions of the project near the bluffs, and potatoes can be raised on the south side of the river, where the soil is more sandy. The main crop, however, is alfalfa and native hay, which is in great demand for winter feed, the great number of cattle and sheep summer pastured on the open range surrounding the project creating a constant demand for alfalfa. All the fruits and vegetables that can be raised on the project can be sold at the mining camps in the Black Hills. The Chicago & Northwestern Railroad passes through the town of Belle Fourche, which is one of the largest live stock shipping points in the United States. This road has also built a line through the center of the project on which the new towns of Fruitdale, Nisland, and Newell are rapidly coming to the front.

Reservoir Makes Largest Lake in the State.

The engineering work on this project involves the construction of one of the largest earth embankments in the country, which is being built in a depression between two hills, and is now nearly finished. It will be 115 feet high, 20 feet wide on top, and more than a mile long. The reservoir thus created will be filled with water by an inlet canal from the Belle Fourche River and will be the largest lake in the State.

The reservoir is being used for the storage of sufficient water for 50,000 acres during the season of 1910.

The watershed area is 4,300 square miles, the average annual rainfall on watershed 20 to 30 inches, and the estimated annual run-off 400,000 acre-feet.

UTAH STRAWBERRY VALLEY PROJECT.

Water Carried Through Mountains by Tunnel Four Miles Long.

This project provides for the irrigation of about 60,000 acres of land in Utah and Wasatch counties, on the eastern shore of Utah Lake. The water supply will be obtained from a storage reservoir which is being built in Strawberry Valley, about 30 miles east of the irrigable area. By means of a tunnel four miles long the stored waters will be carried through the mountains and emptied into Spanish Fork, from which a canal 18 to 20 miles long will convey them to the irrigable area. Power created from the high line canal is now transmitted electrically to the tunnel for drilling and later will be utilized to pump water to lands above the gravity system, and for drainage of low-lying lands.

The lands have an elevation of about 4,600 feet and the temperature ranges from 10 degrees below to 95 degrees above zero. The soil is a sandy loam and gravel, with a deep black soil in the bottom lands, and is exceedingly fertile. Alfalfa, hay, cereals, sugar beets, fruits and vegetables are grown. Settlers are getting ready to plant orchards as soon as water is available. The lands are all in private ownership and existing canals are being enlarged to form part of the Government system. It is possible to purchase lands at reasonable prices from present owners.

Artesian Water.

The watershed area is 200 square miles, the annual rainfall on watershed 45 inches, and the estimated annual run-off 125,000 acre-feet. This valley has one of the finest domestic water supplies in the West, artesian water being found at no great depth.

WASHINGTON OKANOGAN PROJECT.

In Twenty Years of History Never a Failure of Fruit Crop From Frost.

This project is designed to supply water to 10,000 acres of land in Okanogan County, Washington. The soil is volcanic ash, sand and gravel, and is very fertile. Grain, hay, fruit, nuts and vegetables are grown, but the principal crop is apples. The elevation of the land is about 1,000 feet above sea level.

Never a Failure of Fruits.

The temperature ranges from 10 degrees below to 105 degrees above zero. In the history of twenty years of fruit growing in the valley frost has never injured the crops, and there has never been a failure with apples, peaches, plums, prunes, apricots, pears, cherries, nectarines, grapes or any variety of small berries grown there.

Excess Lands for Sale.

On account of the possibilities of high development in this section the farm unit has been fixed at 40 acres. The building charge is $65 per acre of irrigable land, and the operation and maintenance charge at present amounts to $1.50 per acre per annum. The lands are all entered, but excess holdings may be purchased at from $150 to $300 per acre.

Dam 60 Feet High, 1,000 Feet Long.

One of the interesting engineering features is a storage dam 60 feet high and 1,000 feet long, which has been built by the hydraulic fill process. A railroad connecting with the Great Northern at Oroville is being built down the valley of the Okanogan to the Columbia River. This will give the project excellent transportation facilities.

Watershed 150 Square Miles.

The watershed area is 150 square miles, the average annual rainfall on watershed 17 inches and the estimated annual run-off 30,000 acre-feet. The annual rainfall on the irrigable area is 8 inches.

WASHINGTON YAKIMA PROJECT.

To Store Water for 460,000 Acres — Lands Valued at $300 to $1,000 per Acre for Fruit Raising.

On the eastern side of the Cascade Mountains, in Washington, is a succession of valleys in the drainage of the Yakima River. It is estimated that with storage the water supply is sufficient for about 460,000 acres of land. Storage is being provided by erecting dams at the outlets of several mountain lakes, the capacity of which when ultimately developed, will total 930,000 acre-feet. The development of a comprehensive system of irrigation in Yakima Valley will be accomplished by the successive construction of several units of a general project, the work being gradually extended to embrace the entire irrigable area.

Lands Worth From $300 to $1,000 Per Acre.

Teton Unit—The lands under this unit are in Yakima County, near the city of North Yakima. The engineering features are difficult and expensive. For 12 miles the main canal is excavated along the steep sides of the Teton Canyon, and in five places the canyon walls are tunneled, the total length of the tunnels being more than two miles. The lands to be irrigated are rolling, and the distribution system will also be expensive. In order to replace in the Naches River the water needed to supply prior appropriations, it was necessary for the Government to construct storage works at Bumping Lake, Wash., on the headwaters of that stream. The lands, embracing somewhat over 35,000 acres, are nearly all in private ownership, and the landowners are confident that the results will justify the expenditures, as the lands in the vicinity, not more favorably situated for fruit raising, range in value from $300 to $1,000 per acre. The elevation is from 1,300 to 2,100 feet above sea level and the temperature ranges from 21 below zero to 102 degrees above. The soil is a volcanic ash, exceedingly fertile, and although a great variety of crops could be grown the lands are so valuable that it is probable the principal crops will be fruit and hops. The lands are tributary to the Northern Pacific Railway which has North Yakima for its nearest station to the unit. Flood water is being delivered on a rental basis to about 2,000 acres and additional areas will be irrigated in 1911. The cost of water right has not yet been determined.

Sunnyside Unit—The first unit of this system is now available for 11,590 acres of land in addition to the 40,000 acres under the old canal. The cost of water right is $52 per acre, payable in not more than ten annual installments, and the operation and maintenance charge at present is 95 cents per acre of irrigable land. Work on the system consists of the enlargement and extension of the existing Sunnyside Canal, which was purchased by the Government. The extension of this system will cover more than 50,000 acres of new land. The project lies in Yakima and Benton counties, and embraces the towns of Parker, Zillah, Outlook, Sunnyside, Granger, Grandview, Belma, Mabton and Prosser. The average elevation is 700 feet above sea level and the temperature ranges from 21 below zero to 110 degrees above.

Three Feet of Water.

The soil is deep volcanic ash and gravel, and requires three acre-feet of water per acre per annum. The farm unit is 40 and 80 acres of irrigable land. Forage, hops, vegetables and fruits are grown. The orchards of Yakima Valley are famous for their yields of fine fruits.

Notice Given of Opening.

Wapato Unit—The irrigable lands under this unit are in the Yakima Indian Reservation. There are about 116,000 acres susceptible of irrigation, 15,000 acres of which are now receiving water during high water periods through canal systems constructed by the Indians. The soil and transportation facilities are excellent. For the reclamation of these lands, the plans provide for the enlargement of the old and new reservation canals which were built with tribal funds, the building of other canals and laterals, and the storage of over 200,000 acre-feet of water in Yakima lakes. Due notice of a formal opening will be made by the Secretary of the Interior through the public press.

In Market Later.

Kittitas Unit—This unit contemplates the irrigation of land in the vicinity of Ellensburg. A canal 90 miles long will bring water from the Yakima River just above Easton. The growing season is somewhat shorter here than in the lower valleys, but the lands are well adapted to diversified farming. This is the dairying section of eastern Washington and the soil and climate are favorable for the growing of cereals, timothy, vegetables and winter apples. Construction work has not begun on this unit.

West Bank Columbia River.

Benton Unit—The lands under this project lie on the west bank of the Columbia River, from Kennewick to Priest Rapids. Work has not yet commenced on this unit.

WYOMING SHOSHONE PROJECT.

Has Highest Dam in the World — Elevation From Bed Rock, 328.4 Feet.

The project involves the construction of an impounding dam at the head of the canyon of the Shoshone River in northern Wyoming and the diversion of the waters for the irrigation of about 155,000 acres of land. This dam, the highest in the world, was completed in the winter of 1909-1910. Fifteen thousand acres were opened to entry in 1908 and a similar area was opened May 22, 1909, and so rapidly have these lands been taken up that work is now being pushed on the third unit of a similar area.

Climate Very Delightful.

The elevation is about 4,500 feet above sea level, and the temperature ranges from 20 below to 95 degrees above zero. The climate is dry and delightful and the soil of light, sandy and clay loams, produces abundantly when water is applied. Alfalfa, hay, wheat, oats, barley and vegetables can be grown; also potatoes, sugar beets and fruits. Large numbers of cattle and sheep are pastured on the surrounding ranges during the greater part of the year, but require feeding in the winter months, so that there is always a good home market for hay. Hog and poultry raising are also very profitable.

Annual Maintenance $1 Per Acre.

The farm unit varies from 40 to 80 acres of irrigable land. The building charge is $46.00 per acre of irrigable land, payable in ten annual installments. The annual maintenance and operation charge at present is $1.00 per acre, one-tenth of the building charge and one year's maintenance charge, or $5.60 per acre, are due at the time of filing. All new entries must be accompanied by payment of the charges for operation and maintenance which have accumulated since 1909.

The tract is traversed by the Chicago, Burlington and Quincy Railroad, and has good transportation facilities to the big markets of the Mississippi Valley, Denver, and the Pacific Coast.

Watershed 1,380 Square Miles.

The watershed area is 1,380 square miles, the average annual rainfall on watershed 15 inches, and the estimated annual run-off is 1,000,000 acre-feet. The rainfall on the irrigable area is from 6 to 10 inches.

Highest Dam Known.

Considerable interest attaches to the engineering work on this project, as the Shoshone dam is the highest structure of its kind in the world. It is 328.4 feet high from bed rock to top of parapet walls, 108 feet thick on the bottom and only 200 feet long on top. The reservoir created by it has an area of 6,600 acres and a capacity of 456,000 acre-feet. The diversion dam, which turns the waters of the river through a tunnel 3 1-3 miles long into the main canal, is a reinforced concrete masonry structure 18 feet high and 400 feet long.

Several Flourishing Towns.

Four flourishing towns, Cody, Garland, Powell and Ralston, are located on the project. They contain schools, churches, banks, newspapers, manufacturing establishments, hotels, stores, etc., and offer opportunities for professional and business men and artisans.

Timber and Coal.

The surrounding mountains are covered with spruce and fir and supply the farmers with timber and the stockmen with summer range. Coal mines located in the vicinity supply cheap fuel for domestic and manufacturing purposes. Well water of good quality is found at depths varying from 30 to 50 feet.

Conditions Under Which Settler Can Get Irrigated Land.

REGULATIONS RELATING TO METHODS BY WHICH HOMESTEAD MAY BE OBTAINED ON RECLAIMED LAND.

Homestead Entries.

1 Q. In what way can public land be taken under the Reclamation Act?

A. The only way in which land can be taken is under the terms of the homestead law, which requires actual residence and cultivation.

2. Q. Can I take up a homestead under the Reclamation Act and obtain title when I am earning a living in a nearby city?

A. You cannot obtain a homestead unless you live on the land and make it your home. Occasional absence is allowable, if some good reason is given, but you cannot live elsewhere and claim a homestead.

3. Q. Is it necessary for me to live on the land more than once in six months?

A. Yes; actual and continuous residence is required by law; you must establish your home on the land and live there for the full term required.

4. Q. Must I move onto the land at once?

A. You are given six months from the time of making your entry to establish residence, and before the end of that time you must be actually living on the ground.

5. Q. Is it sufficient to erect an ordinary claim shanty, with one door and window?

A. No; the claim shanty and nominal residence which may have sufficed under some conditions will not be sufficient on the irrigable land. An actual home, where you sleep and take your meals habitually and the cultivation of a part of your claim, will be required.

6. Q. Can I enter 160 acres and then sell off part of it?

A. You can obtain title only to a certain piece of land, which may be from 10 to 160 acres, and you can not convey any title to this or to any portion of it until final certificate has issued to your entry. Under certain conditions you may relinquish or give up a portion of it, and in that event some other person can make a new homestead entry, but you cannot transfer to him any rights or privileges, and he must begin his term of residence as required in the case of a new entry.

7. Q. Must I live on the land if water is not available?

A. Yes; after you make your homestead entry you must comply with the terms of the homestead law. No excuse will be accepted because of lack of water; if lands are entered before the water is ready there is a presumption that the person making the entry does it for speculative purposes rather than for an actual home.

8. Q. What is the area of the farm unit on the project?

A. One hundred and sixty acres.

9. Q. When can I ascertain the limit for which water may be obtained under a project?

A. Under section 4 of the Reclamation Act the Secretary of the Interior will give public notice of the lands irrigable and limit of area per entry, "which limit shall represent the acreage which, in the opinion of the Secretary, may be reasonably required for the support of a family upon the lands in question." This notice is usually given during the season preceding that during which water is to be furnished.

10. Q. What assurance is there that the land which I enter will be irrigated?

A. You can have no assurance that the land will be irrigated until public notice has been given. If you enter in advance of the public notice, you make a speculative entry, wholly at your own risk, and without any guaranty or safeguard that water will be supplied, and with a reasonable probability that you may lose your homestead right.

11. Q. How will the notice be given?

A. Through the public press. When the adjustment of entries to the farm units is necessary, the register and receiver of the local land office will give notice by posting in the local land office, by publication, and by mailing special notice by registered mail to every person who may have made entry to the farm unit.

12. Q. If a homestead entry is made before the issuance of the public notice as to the area of the farm unit, will the entryman be permitted to prove up as to the entire tract?

A. No. When the farm unit is established, notice will be sent to the various entrymen informing them of the fact, and that they will be required to cut down their holdings to the limit decided upon by the Secretary of the Interior as sufficient for the support of a family, and giving them the option of selecting such part of the land as they may prefer and amending their entries accordingly; or in case they fail to make such selection, the United States will make it for them and cancel the remainder of the entry.

13. Q. Where the entryman is in default as to the payment of any annual installment, will his relinquishment relieve the land of the charge against it?

A. No. The annual charge is not a rental obligation, and a succeeding entryman takes the land burdened with whatever charges may have been duly levied against it and not paid or discharged by his predecessor.

14. Q. What is the effect of a relinquishment of an entry made under the Reclamation Act?

A. The cancellation of an entry, whether by relinquishment or otherwise, carries with it the forfeiture of all claim to the water right. When the land is re-entered the water right that is appurtenant to the land inures to the second entryman, who is obliged to pay all charges then due or afterwards apportioned against the tract.

15. Q. What are farm unit plats?

A. Farm unit plats are township plats approved by the Secretary of the Interior, showing the subdivision of land under reclamation projects, and the number of acres of irrigable land contained in each farm unit or separate tract of private land. They will be on file at the local land offices and at the offices of the Reclamation Service, after the issuance of the public notice provided by the Reclamation Act.

16. Q. How much water will be furnished for the land?

A. Such amount as may be available from the works controlled by the United States not to exceed the amount necessary for the proper irrigation of the same. The quantity will be duly announced for each project when the Secretary of the Interior gives the public notice under section 4 of the act.

Desert-Land Entries.

17. Q. May a desert-land entryman or his assignee apply for a government water right?

A. Yes; but he must live on the land or in the neighborhood and relinquish to the United States any land in the entry exceeding 160 acres.

18. Q. Will the time for making final proof on desert-land entries be extended?

A. Yes; his entry becomes subject to the provisions of the Reclamation Act as to residence, payments, etc.

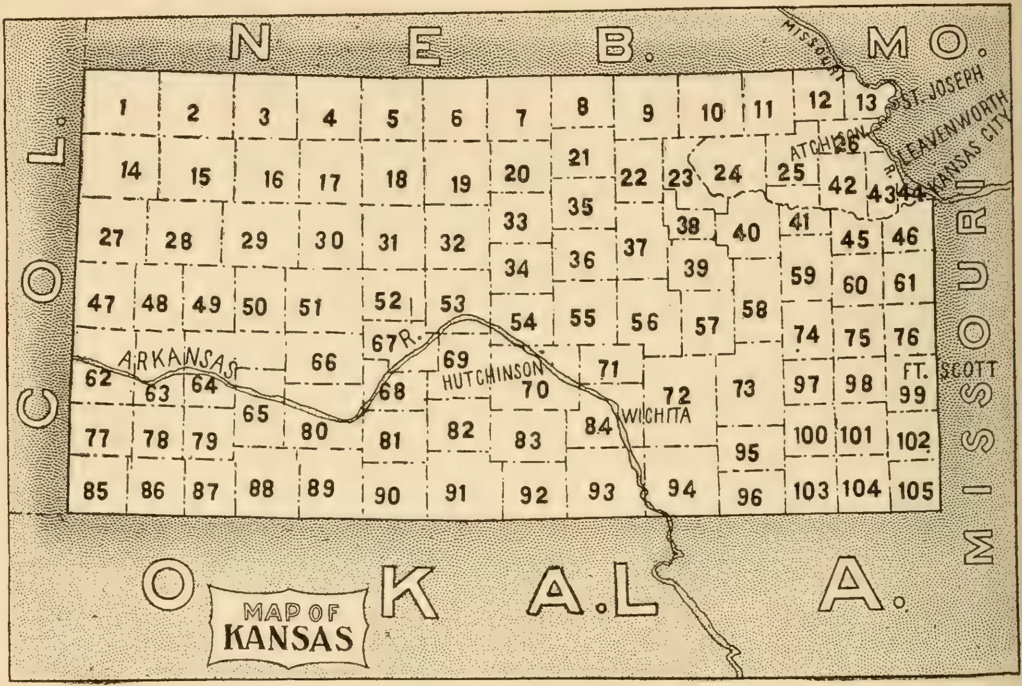
About Units.

Units differ in size. On very favorable land it may be ten and twenty acres. On other lands more.

To show what these irrigated projects are, where located and various facts about them, we give the Reclamation map herewith and reproduce much of the literature employed by the government in describing each one.

STATE AND THE 105 COUNTIES OF KANSAS

With Their Boundaries



LOCATION AND POPULATION OF KANSAS COUNTIES

Location and Population of KANSAS COUNTIES

Location	COUNTIES	Pop. 1910
1	Cheyenne	4,248
2	Rawlins	6,380
3	Decatur	8,976
4	Norton	11,614
5	Phillips	14,150
6	Smith	15,365
7	Jewell	18,148
8	Republic	17,447
9	Washington	20,229
10	Marshall	23,880
11	Nemaha	19,072
12	Brown	21,314
13	Doniphan	14,422
14	Sherman	4,549
15	Thomas	5,455
16	Sheridan	5,654
17	Graham	8,700
18	Rooks	11,282
19	Osborne	12,827
20	Mitchell	14,089
21	Cloud	18,388
22	Clay	15,251
23	Riley	15,783
24	Pottawatomie	17,522
25	Jackson	16,861
26	Atchison	28,107
27	Wallace	2,759
28	Logan	4,240
29	Gove	6,044
30	Trego	5,398
31	Ellis	12,170
32	Russell	10,800
33	Lincoln	10,142
34	Ellsworth	10,444
35	Ottawa	11,811
36	Saline	20,338
37	Dickinson	24,361
38	Geary	12,681
39	Morris	12,397
40	Wabunsee	12,721
41	Shawnee	61,874
42	Jefferson	15,826
43	Leavenworth	41,207
44	Wyandotte	100,068
45	Douglas	21,724
46	Johnson	18,288
47	Greeley	1,335
48	Wichita	16,060
49	Scott	3,047
50	Lane	2,603
51	Ness	5,883
52	Rush	7,826
53	Barton	17,846
54	Rice	15,106
55	McPherson	21,521
56	Marion	22,415
57	Chase	7,527
58	Lyon	24,927
59	Osage	19,903
60	Franklin	20,884
61	Miami	20,030
62	Hamilton	3,360
63	Kearney	3,206
64	Finney	6,908
65	Gray	3,121
66	Hodgeman	2,930
67	Pawnee	8,859
68	Edwards	7,033
69	Stafford	12,510
70	Reno	37,853
71	Harvey	19.200
72	Butler	23,059
73	Greenwood	16,060
74	Coffey	15,205
75	Anderson	13,829
76	Linn	14,735
77	Stanton	1,034
78	Grant	1,087
79	Haskell	993
80	Ford	11,393
81	Kiowa	6,174
82	Pratt	11,156
83	Kingman	13,386
84	Sedgwick	73,095
85	Morton	1,333
86	Stevens	2,453
87	Seward	4,091
88	Meade	5,055
89	Clark	4,093
90	Comanche	3,281
91	Barber	9,916
92	Harper	14,784
93	Summer	30,654
94	Crowley	31,790
95	Elk	10,128
96	Chautauqua	11,420
97	Woodson	9,450
98	Allen	27,640
99	Bourbon	24,007
100	Wilson	19,810
101	Neosho	23,754
102	Crawford	51,178
103	Montgomery	49,474
104	Labette	31,423
105	Cherokee	38,162
	Total	1,690,949

Kansas Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
*Abilene	37	4,118
Admire	58	205
Agra	5	347
Alden	54	255
Allen	58	286
Allendale	98	260
*Alma	40	1,010
Almena	4	702
Altamont	104	606
Alta Vista	40	499
Alton	19	414

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Kansas Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Altoona	100	1,462
Andale	84	237
*Anthony	92	2,660
Arcadia	102	694
Argonia	93	466
Arkansas City	94	7,508
Arlington	70	450
Arma	102	327
Arrington	26	209
*Ashland	89	910
Assaria	36	246
*Atchison	26	16,429
Atlanta	94	330
Attica	92	737
*Atwood	2	910
Augusta	72	1,235
Aurora	21	450
Axtell	10	748
B		
Badger	105	306
Baldwin	45	1,386
Barnard	33	425
Barnes	9	650
Bartlett	104	249
Basehor	43	280
Bassett	98	415
Baxter Spgs.	105	1,598
Beattie	10	750
Belle Plaine	93	849
*Belleville	8	2,224
*Beloit	20	3,082
Belpre	68	485
Benedict	100	215
Bennington	35	386
Benton	72	240
Bern	11	306
Beverly	33	335
Bison	52	350
Blaine	24	245
Blue Mound	76	596
Blue Rapids	10	1,756
Bluff City	92	307
Bonner Springs	44	1,462
Brewster	15	590
Bronson	99	595
Brookville	36	280
Bucklin	80	1,000
Buffalo	100	807
Buffville	100	309
Buhler	70	250
Bunkerhill	32	242
Burden	94	424
Burlingame	59	1,422
*Burlington	74	2,180
Burns	56	489
Burr Oak	7	1,132
Burrton	71	689
Bushton	54	222
C		
Caldwell	93	2,205
Cambridge	94	225
Caney	103	3,597
Canton	55	684
Carbondale	59	461
Carlisle	98	250
Carona	105	460
Castleton	70	290
Cawker City	20	870
Cedar Vale	96	948
Centerville	76	200
Centralia	11	665
Chanute	101	9,272
Chapman	37	781
Chase	54	163
Chautauqua	96	348
Cheney	84	734
Cherokee	102	1,452
Cherryvale	103	4,304
Chetopa	104	1,548
Chicopee	102	1,469
*Cimarron	65	587
Circleville	25	265
Claflin	53	559
*Clay Center	22	3,438
Clear Water	84	569
Clifton	9	614
Clinton	45	250
Clyde	21	1,057
Coats	82	269
Coffeyville	103	12,687
*Colby	15	1,130
*Coldwater	90	684
Colony	75	530
*Columbus	105	3,064
Colwich	84	258
*Concordia	21	4.415
Conway Sprgs.	93	1,292
Corning	11	411
*Cottonwood Falls	57	899
*Council Grove	39	2,545
Courtland	8	506
Coyville	100	227
Crestline	105	287
Croweburg	102	860
Cuba	8	776
Culver	35	326
Cunningham	83	395
Curranville	102	773
D		
Dearing	103	250
Delphos	35	767
Denison	25	290
Denton	13	337
Derby	84	350
De Soto	46	331
Detroit	37	210
Devon	99	290
Dexter	94	512
*Dighton	50	370
*Dodge City	80	3,214
Dorrance	32	281
Douglass	72	657
Downs	19	1,427
Dresden	3	209
Dunkirk	102	490
Dunlap	39	333
Durham	56	268
Dwight	39	298
E		
Earleton	101	225
Easton	43	310
Edgerton	46	443
Edna	104	489
Edwardsville	44	250
Effingham	26	674
*Eldorado	72	3,129
Elgin	96	400
Elk City	103	659
Elk Falls	95	271
Ellinwood	53	976
Ellis	31	1,404
*Ellsworth	34	2,041
Elmdale	57	253
El Paso	84	235
Elsmore	98	216
Elwood	13	686
Emmet	24	209
*Emporia	58	9,058
Englevale	102	376
Englewood	89	518
Enterprise	37	706
*Erie	101	1,309
Esbon	7	341
Eskridge	40	797
Eudora	45	640
*Eureka	73	2,333
Everest	12	436
Ezbon	7	347
F		
Fairview	12	386
Fall River	73	383
Florence	56	1,168
Fontana	61	246
Ford	80	205
Formosa	7	453
Fort Dodge	80	360
Ft. Leavenw'th	43	2,509
Fort Riley	38	3,508
*Fort Scott	99	10,463
Fowler	88	473
Frankfort	10	1,426
Franklin	102	508
*Fredonia	100	3,040
Frontenac	102	3,396
Fuller	102	609
Fulton	99	416
G		
Galena	105	6,096
Galva	55	322
*Garden City	64	3,171
Garden Plain	84	296
Gardner	46	514
Garfield	67	333
Garland	99	345
*Garnett	75	2,334
Gas	98	1,281
Gaylord	6	308
Gem	15	250
Geneseo	54	566
Geuda Springs	94	254
*Girard	102	2,446
Glade	5	206
Glasco	21	720
Glen Elder	20	565
Goddard	84	225
Goff	11	422
*Goodland	14	1,993
Gorham	32	200
Grainfield	29	309
Grantville	42	200
*Great Bend	53	4,622
Greeley	75	492
Green	22	289
Greenleaf	9	854
*Greensburg	81	1,199
Grenola	95	532
Gridley	74	209
Grinnell	29	200
Gross	102	309
Gypsum	36	623
H		
Haddam	9	408
Hallowell	105	250
Halstead	71	1,004
Hamilton	73	325
Hamlin	12	208
Hanover	9	1,039
Harper	92	1,638
Hartford	58	589
Harveyville	40	331
Havana	103	227
Haven	70	528
Havensville	24	412
Haviland	81	568
*Hays	31	1,961
Hazelton	91	315
Hayne	87	1,436
Herington	37	3,273
Herkimer	10	200
Herndon	2	273
Hewins	96	225
*Hiawatha	12	2,974
Highland	13	783
*Hill City	17	983
Hillsboro	56	1,134
Hillsdale	61	260
Hog Back	31	306
Hoisington	53	1,975
Holliday	46	280
*Holton	25	2,842
Holyrood	34	361
Home	10	200
Hope	37	567
Horton	12	3,600
*Howard	95	1,163
*Hoxie	16	532
Hoyt	25	350
Hudson	69	253
Humboldt	98	2,548
Hunnewell	93	208
Huron	26	260
*Hutchinson	70	16,364
I		
Idana	22	208
*Independence	103	10,480
Industry	37	280
Inman	55	484
*Iola	98	9,032
Ionia	7	280
Iowa Point	13	209
Irving	10	409
Isabel	91	222
Iuka	82	228
J		
Jamestown	21	462
Jarbalo	43	200
Jennings	3	259
*Jetmore	66	317
Jewell	7	839
*Junction City	38	5,598
K		
*Kansas City	44	82,331
Kelly	11	260
Kensington	6	497
Kincaid	75	426
*Kingman	83	2,570
*Kingsley	68	1,547
Kiowa	91	1,520
Kirwin	5	607
L		
Labette	104	350
*La Crosse	52	806
La Cygne	76	957
La Harpe	98	2,760
*Lakin	63	237
Lancaster	26	220
Lane	60	272
Langdon	70	200
Lansing	43	890
*Larned	67	2,911
Latham	72	364
*Lawrence	45	12,374
*Leavenworth	43	19,362
Lebanon	6	731
Lebo	74	560
Lecompton	45	386
Lehigh	56	385
Lenexa	46	333
Lenora	4	454
Leon	72	494
Leona	13	250
Leonardville	23	376
*Leoti	48	500
Le Roy	74	861
Lewis	68	557
*Liberal	87	1,800
Liberty	103	385
*Lincoln	33	1,508
Lindsborg	55	1,939
Linn	9	490
Linwood	43	323
Little River	54	661
Logan	5	714
Long Island	5	291
Longton	95	1,300
Lost Springs	56	276
Louisburg	61	603
Louisville	24	247
Lowell	105	206
Lucas	32	573
Luray	32	341
*Lyndon	59	763
*Lyons	54	2,071
M		
McCracken	52	371
McCune	102	730
McFarland	40	388
*McPherson	55	3,546
Macksville	69	626
Madison	73	721
Mahaska	9	246
Maize	84	260
Manchester	37	250
*Manhattan	23	5,722
*Mankato	7	1,155
Maplehill	40	277
Mapleton	99	230
*Marion	56	1,841
Marquette	55	715
*Marysville	10	2,260
Matfield	57	225
Mayetta	25	337
Mayfield	93	200
*Meade	88	664
*Medic'e Lodge	91	1,229
Melrose	105	200
Melvern	59	505
Meriden	42	467
Midway	102	509
Milan	93	350
Mildred	98	390
Milford	38	209
Miltonvale	21	829
Mineral	105	1,170
*Minneapolis	35	1,895
Mineola	89	348
Moline	95	860
Moran	98	559
Morganville	22	285
Morland	17	237
Morrill	12	398
Morrowville	9	206
*Mound City	76	698
Moundridge	55	626
Mound Valley	104	956
Mount Hope	84	519
Mulberry	102	997
Mullinville	81	289
Mulvane	93	1,084
Munden	8	275
Muscotah	26	491
N		
Narka	8	278
Nashville	83	260
National Military Home	43	2,508
Natoma	19	407
Neodesha	100	2,872
Neosho Falls	97	571
Neosho Rapids	58	256
*Ness City	51	712
Netawaka	25	250
New Albany	100	213
New Cambria	36	280
*Newton	71	7,862
Nickerson	70	1,195
Niotaze	96	317
Norcatur	3	482
*Norton	4	1,787

Kansas Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Nortonville	42	638
Norwich	83	392
O		
Oakland	41	1,465
Oakley	28	681
Oak Valley	95	202
*Oberlin	3	1,157
Ogden	23	230
Oketo	10	253
*Olathe	46	3,272
Olsburg	24	220
Onaga	24	759
Oneida	11	211
Opolis	102	350
Osage City	59	2,432
Osawatomie	61	4,046
*Osborne	19	1,566
*Oskaloosa	42	851
*Oswego	104	2,317
Otego	7	290
*Ottawa	60	7,650
Overbrook	59	571
Overland Park	46	209
Oxford	93	624
Ozawkie	42	283
P		
Palco	18	279
Palmer	9	390
*Paola	61	3,207
Parker	76	398
Parsons	104	12,463
Partridge	70	246
Pawnee Rock	53	458
Paxico	40	238
Peabody	56	1,416
Peoria	60	225
Perry	42	406
Perth	93	280
Peru	96	575
Peterton	59	260
Pfeifer	31	402
*Phillipsburg	5	1,302
Piedmont	73	208
Piqua	97	290
Pittsburg	102	14,755
Plains	88	350
Plainville	18	1,090
Pleasanton	76	1,373
Pomona	60	523
Portis	19	304
Potwin	72	249
Powhattan	12	216
*Pratt	82	3,302
Prescott	76	255
Preston	82	278
Pretty Prairie	70	327
Princeton	60	250
Protection	90	390
Q		
Quenemo	59	556
Quincy	73	280
Quindaro	44	306
Quinter	29	450
R		
Radley	102	508
Ramona	56	256
Randall	7	325
Randolph	23	455
Ransom	51	204
Ransomville	60	290
Rantoul	60	282
Reading	58	289
Redfield	99	232
Reece	73	280
Republic	8	450
Reserve	12	390
Rexford	15	360
Richland	41	250
Richmond	60	350
Riley	23	343
Robinson	12	492
Rosedale	44	5,960
Roseland	105	396
Rossville	41	672
Rushcenter	52	200
*Russell	32	1,692
S		
Sabetha	11	1,857
Saint Francis	1	492
Saint John	69	1,785
Saint Marys	24	1,397
Saint Paul	101	927
Saint Peter	17	250
*Salina	36	9,688
*Santa Fe	79	280
Savonburg	98	257
Sawyer	82	250
Scammon	105	2,233
Scandia	8	579
Schoenchen	31	496
*Scott	49	819
Scottsville	20	248
Scranton	59	770
*Sedan	96	2,211
Sedge	71	626
Selden	16	297
*Seneca	11	1,806
Severance	13	383
Severy	73	608
Sharon	91	356
*Sharon Spgs	27	440
Shawnee	46	450
Sidd	85	250
Silver Lake	41	260
Simpson	20	211
Skidmore	105	480
*Smith Center	6	1,450
Soldier	25	338
Soldiers Home	43	4,281
Solomon	37	949
South Haven	93	483
South Hutchinson	70	387
Spearville	80	575
Spivey	83	252
Spring Hill	46	605
Stafford	69	1,927
Stanley	46	200
Sterling	54	2,133
Stilwell	46	360
Stippville	105	250
*Stockton	18	1,317
Stone City	105	508
Strong	57	762
Summerfield	10	554
Sylvan Grove	33	464
Sylvia	70	634
*Syracuse	62	1,126
T		
Tablemound	103	1,260
Talmo	8	288
Tampa	56	256
Tescott	35	421
Thayer	101	542
Tipton	20	210
Tonganoxie	43	1,018
Topeka (capital)	41	43,684
Toronto	97	627
*Troy	13	949
Turner	44	260
Turon	70	572
Tyro	103	603
U		
Udall	94	330
Uniontown	99	256
Utica	51	306
V		
Valley Center	84	381
Valley Falls	42	1,129
Vermilion	10	366
Victoria	31	1,500
Vliets	10	209
W		
Wabaunsee	40	260
*Wakeeney	30	883
Wakefield	22	514
Waldo	32	209
Waldron	92	262
Walnut	102	639
Walton	71	357
Wamego	24	1,714
*Washington	9	1,547
Waterville	10	704
Wathena	13	777
Waverly	74	751
Webber	7	309
Webster	18	208
Weir	105	2,289
Welda	75	250
*Wellington	93	7,034
Wellsville	60	646
West Mineral	105	1,853
*Westmoreland	24	484
Westphalia	75	560
West Plains	88	333
Wetmore	11	483
Wheaton	24	225
White City	39	506
White Cloud	13	1,119
White Water	72	518
Whiting	25	426
*Wichita	84	52,450
Willard	41	206
Williamsburg	60	399
Wilsey	39	460
Wilson	34	981
Winchester	42	456
*Winfield	94	6,700
Woodbine	37	250
Woodruff	5	260
Woodston	18	299
Y		
Yale	102	809
*Yates Center	97	2,024
Yocemento	31	320
Z		
Zenda	83	269

KANSAS

Torn by Political Foment in Its Early History—Later Devastated by Drouth and Grasshoppers—Finally Triumphs Over All Difficulties and Becomes a Most Prosperous State

The geographical center of the United States.—A state visited by a great number of catastrophes of which the people have been victims.

Kansas is the center of the United States. The exact geographical center, exclusive of Alaska, lies near Manhattan, in Riley county, Kansas, about 100 miles west of Kansas City.

The width of the state is 400 miles from east to west, and in length 210 miles from north to south. Its area covers 82,080 square miles, being larger than New England; twice as large as Kentucky, Ohio, or Indiana, and larger than New York and Indiana combined.

Kansas has been more frequently mentioned in recent history than any other western state. Everything about Kansas was remarkable. Here was the **great American Desert**, here were the vast buffalo herds, here lived the **drouth** stricken people of other years, here was **grasshopper** headquarters, here was the contest between the free state settlers and the pro-slavery denizens who came in from Missouri determined to make Kansas a slave state.

Here Lawrence, Topeka, Ossawatomie, and other towns, were settled by people from New England, sent out by the Massachusetts emigrant aid society to make the state politically anti-slavery. Here John Brown, of Harper's Ferry notoriety, began his anti-slavery crusades, resulting in murder and excitement in 1855, here **Quantrell** and a band of pro-slavery guerillas **burned Lawrence** and killed 185 persons in 1863.

DROUTH, GRASSHOPPERS AND HARD TIMES.

Here drouth, grasshoppers and hard times compelled great numbers of the people to mortgage their properties to eastern capitalists. **For the purpose** of investigating the cause of the evil conditions that had fallen upon Kansas, here gathered the people in every district into their school houses, and these men and women discussed free silver, gold standard, monopoly, trusts and the tariff. Here they **talked and talked** and acquired such practice and fluency in oral discussions as to enable great numbers of men and women to go forth from Kansas highly accomplished public speakers.

Here again the rains fell, the wheat and cornfields responded in over bountiful supply, the granaries and barns **were filled** to overflowing, the mortgages were paid, the farmers **opened bank accounts**, the school house gatherings are no longer held, while the **Kansas orators,** with the tillers of the soil, aided by favoring climatic conditions, have settled down to the making of money from their exceedingly **fertile soil**.

Great as Kansas is in area, in intellectuality of people, in stirring events of the past, in wealth of agriculture and natural resources, it seems strange not to speak of Kansas in any other way than in the superlative degree.

Kansas Described

In Speech of Hon. J. J. Ingalls, Formerly United States Senator From Kansas. In "A Kansas Souvenir." Published by the Kansas Immigration and Information Association, We Find the Following:

Kansas is the navel of the nation.

Diagonals drawn from Duluth to Galveston; from Washington to San Francisco; from Tallahasse to Olympia; from Sacramento to Augusta, intersect at its center.

Kansas is the nucleus of our political system, around which its forces assemble; to which its energies converge; and from which its energies radiate to the remotest circumference.

Kansas is the focus of freedom, where the rays of heat and light concentrated into a flame that melted the manacles of the slave, and cauterized the heresies of state sovereignty and disunion.

Kansas is the core and kernel of the country, containing the germs of its growth, and the quickening ideas essential to its perpetuity.

It seems incredible that there was a time when Kansas did not exist; when its name was not written on the map of the United States; when the Kansas cyclone, the Kansas grasshopper, the Kansas boom, and the Kansas Utopia were unknown.

I was a student in the junior class at Williams College, when President Pierce, forgotten but for that signature, approved the act establishing the Territory of Kansas, May 30, 1854. I recall the inconceivable agitation that preceded, accompanied, and followed the event. It was an epoch. Destiny closed one volume of our annals, and opening another, traced with shadowy finger upon its pages a million epitaphs, ending with "Appomattox."

Kansas was the prologue to a tragedy whose epilogue has not yet been pronounced; the prelude to a fugue of battles whose reverberations have not yet died away.

Floating one summer night upon a moonlit sea, I heard far over the still waters a high, clear voice singing:

"To the West! To the West! To the land of the free,
Where the mighty Missouri rolls down to the sea;
Where a man is a man if he's willing to toil,
And the humblest may gather the fruits of the soil."

A few days later, my studies being completed, I joined the uninterrupted and resistless column of volunteers that marched to the land of the free. St. Louis was a squalid border town, the outpost of civilization.

The railroad ended at Jefferson City. Trans-continental trains, with sleepers and dining cars, annihilating space and time, were the vague dream of a future century.

Overtaking at Hermann a fragile steamer that had left her levee the day before, we embarked upon a monotonous voyage of four days along the treacherous and tortuous channel that crawled between forests of cottonwood and barren bars of tawny sand, to the frontier of the American Desert.

It was the mission of the pioneer with his plough to abolish the frontier, and to subjugate the desert. One has become a boundary, and the other an oasis. But with so much acquisition, something has been lost for which there is no compensation or equivalent. He is unfortunate who has never felt the fascination of the frontier; the temptation of unknown and mysterious solitudes; the exultation of helping to built a State; of forming its institutions and giving direction to its career.

Kansas, in ts rudimentary stage, extended westward six hundred and fifty-eight miles to the crest of the Rocky Mountains, the eastern boundary of Utah. By subsequent amputation and curtailment, it was shorn to its present narrow limits of fifty-two million acres; three thousand square miles in excess of the entire area of New England. Denver, Manitou, Pueblo, Pike's Peak, and Cripple Creek are among the treasures which the State-makers of 1859, like the base Indian, threw unconsciously away, though richer than all his tribe.

Thirty years ago, along the eastern margin of the grassy quadrangle which geographers called Kansas, the rude forefathers of Atchison, Leavenworth, Wyandotte, Lawrence and Topeka slept in the intervals of their strife with the petty tyrants of their fields, and beyond their western horizon, the rest was silence, solitude, and the wilderness, to the Rio Grande; to the Yellowstone; to the Sierra Nevada; like the lonely steppes of Turkestan and Tartary; inhabited by wandering tribes, whose occupation was war; whose pastime was the chase; pastured for untold centuries by roaming herds that followed the seasons in their recurring migrations from the arctic circle to the Gulf.

It has been sometimes obscurely intimated that the typical Kansan lacks in reserve, and occasionally exhibits a tendency to exaggeration in dwelling upon the development of the State, and the benefits and burdens of its citizenship.

Censorious scoffers, actuated by envy, jealousy, malignity and other evil passions, have hinted that he unduly vaunteth himself; that he brags and becomes vainglorious; that he is given to bounce, tall talk, and magniloquence.

There have not been wanting those who affirm that he magnifies his calamities as well as his blessings, and desires nothing so much as to have the name of Kansas, in any capacity, always in the ears and mouths of men.

Such accusations are well calculated to make the judicious grieve. They result from a misconception of the man and his environment.

The normal condition of the genuine Kansan is that of shy and sensitive diffidence. He suffers from excess of modesty. He blushes too easily. There is nothing he dislikes so much as to hear himself talk. He hides his light under a bushel. He keeps as near the tail end of the procession as possible. He never advertises. He bloweth not his own horn, and is indifferent to the band wagon.

He is oppressed by the vast responsibility of being an inhabitant of a commonwealth so immeasurably superior, in all the elements of present glory, in all the prophecies of future renown, to its inferior companions.

To be a denizen of a State that surpasses all other communities, as Niagara excels all other cataracts, as the sun transcends all other luminaries, imposes obligations that render levity impossible.

The every-day events of Kansas would be marvels elsewhere; our platitudes would be panegyrics; the trite and commonplace are unknown. It is impossible to over-estimate the value of citizenship in a State that sent more soldiers into the Union armies than it had voters when Sumter fell; that exceeded all quotas without draft or bounty; that had the highest rate of mortality upon the field of battle. That a State so begotten and nurtured should be as indomitable in peace as it was invincible in war, was inevitable. Its gestation was heroic. It represented ideas and principles; conscience, patriotism, duty; the "unconquerable mind and freedom's holy flame."

No other State encountered such formidable obstacles of nature and fortune. Our disasters and catastrophes have been monumental. Swarms of locusts eclipsing the sun in their flight, whose incredible voracity left the forests, and the orchards, and the fields of June as naked as December; drouths changing the sky to brass and the earth to iron; siroccos that in a day devastated provinces and reduced thousands from comfort to penury—these and the other destructive agencies of the atmosphere have been met by a courage that no danger could daunt, and by a constancy unshaken by adversity.

The statistics of the census tables are more eloquent than the tropes and phrases of the rhetorician. The story of Kansas needs no reinforcement from the imagination. Its arithmetic is more dazzling and bewildering than poetry, and the historian is compelled to be economical of truth and parsimonious in his recital of facts, in order not to impose too great a strain upon the capacity of human credulity.

Notwithstanding the mishaps of husbandry and the fatalities of nature, it is a moderate and conservative statement that no community ever increased so rapidly in population, wealth and civilization, nor gained so great an aggregate in so brief a time, as the State of Kansas. There is no other State where the rewards of industry have been so ample, and the conditions of prosperity so abundant, so stable and so secure as here.

History. Believed to have been visited by Spaniards under Vasquez de Coronado in 1541. Partly explored by Frenchmen from Louisiana in 1819-20. After an exciting contest between advocates of pro-slavery and free state, a constitutional convention was held at Wyandotte, Kansas, in 1859, and a constitution adopted prohibiting slavery. In 1861 Kansas was admitted to the Union. During the civil war 20,151 men went into the service in defense of the Union. In various parts of the State Indian massacres occurred between 1864 and 1870 and locusts devoured the crops in 1874.

CONDENSED IMPORTANT FACTS RELATING TO KANSAS.

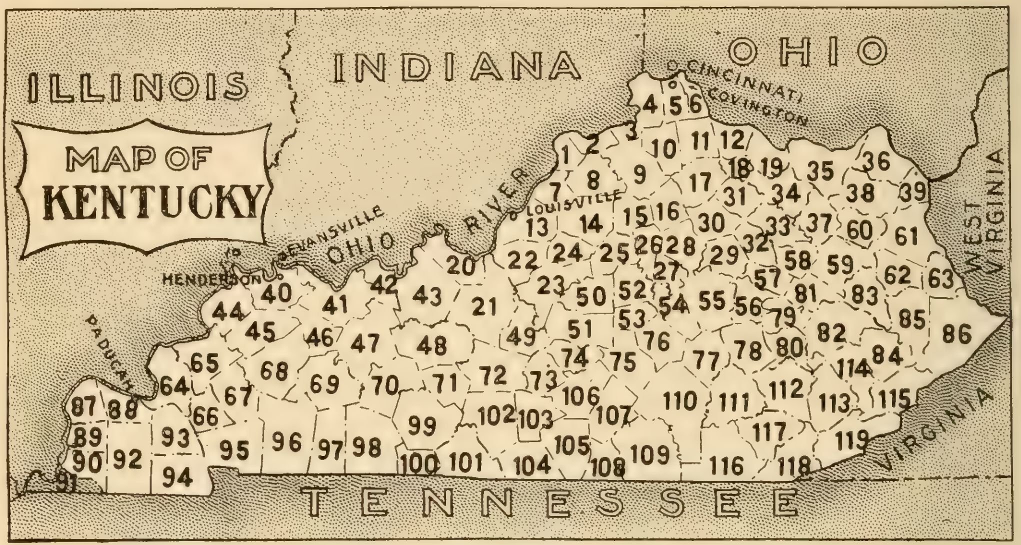
Altitude. Highest at Conorado, Sherman county, 3,906 feet. The decline from this to the eastern edge of the state is about 3,000 feet, causing the many rivers to flow rapidly.

Climate. Leavenworth, Leavenworth county, average annual temperature January 24 above; July 78. Extremes: 107, 29 below. Average annual rainfall, 38.4 inches; at Dodge, Ford county, 19.8 inches.

Dimensions. See general description of Kansas.

STATE AND THE 119 COUNTIES OF KENTUCKY

With Their Boundaries



LOCATION AND POPULATION OF KENTUCKY COUNTIES

Location and Population of KENTUCKY COUNTIES

Location	COUNTIES	Pop. 1910
1	Trimble	6,512
2	Carroll	8,110
3	Gallatin	4,691
4	Boone	9,420
5	Kenton	70,355
6	Campbell	99,369
7	Oldham	7,248
8	Henry	17,716
9	Owen	14,248
10	Grant	10,581
11	Pendleton	11,985
12	Bracken	10,308
13	Jefferson	262,920
14	Shelby	18,011
15	Franklin	21,135
16	Scott	16,956
17	Harrison	16,173
18	Robertson	4,121
19	Mason	18,611
20	Meade	7,783
21	Hardin	22,696
22	Bullitt	9,487
23	Nelson	16,830
24	Spencer	7,567
25	Anderson	10,146
26	Woodford	.....
27	Jessamine	12,613
28	Fayette	47,715
29	Clark	17,987
30	Bourbon	17,462
31	Nicholas	10601
32	Montgomery	12,868
33	Bath	13,988
34	Fleming	16,066
35	Lewis	16,887
36	Greenup	18,475
37	Rowan	9,438
38	Carter	21,966
39	Boyd	23,414
40	Henderson	29,352
41	Daviess	41,020
42	Hancock	8,512
43	Beckinridge	21,034
44	Union	19,886
45	Webster	20,974
46	McLean	13,341
47	Ohio	27,643
48	Grayson	19,958
49	Larue	10,701
50	Washington	13,940
51	Marion	16,330
52	Mercer	14,063
53	Boyle	14,668
54	Garrard	11,894
55	Madison	26,951
56	Estill	12,273
57	Powell	6,268
58	Menifee	6,153
59	Morgan	16,259
60	Elliot	9,814
61	Lawrence	20,067
62	Johnson	7,482
63	Martin	7,291
64	Livingston	10,627
65	Crittenden	13,296
66	Lyon	9,423
67	Caldwell	14,063
68	Hopkins	34,291
69	Muhlenburg	28,598
70	Butler	15,805
71	Edmonson	10,469
72	Hart	18,173
73	Green	11,871
74	Taylor	11,961
75	Casey	15,479
76	Lincoln	17,897
77	Rock Castle	14,473
78	Jackson	10,734
79	Lee	9,531
80	Owsley	7,979
81	Wolfe	9,864
82	Breathitt	17,540
83	Magoffin	13,654
84	Knott	10,791
85	Floyd	18,623
86	Pike	31,679
87	Ballard	12,690
88	McCracken	35,064
89	Carlisle	9,040
90	Hickman	11,750
91	Fulton	14,114
92	Graves	33,539
93	Marshall	15,771
94	Calloway	19,867
95	Trigg	14,539
96	Christian	38,845
97	Todd	16,488
98	Logan	24,977
99	Warren	30,579
100	Simpson	11,460
101	Allen	14,882
102	Barren	25,293
103	Metcalf	10,453
104	Monroe	13,663
105	Cumberland	9,846
106	Adair	16,503
107	Russell	10,861
108	Clinton	8,153
109	Wayne	17,518
110	Pulaski	35,986
111	Laurel	19,872
112	Clay	17,789
113	Leslie	8,976
114	Perry	11,255
115	Letcher	.....
116	Whitley	31,982
117	Knox	22,116
118	Bell	28,447
119	Harlan	10,566
	Total	2,289,905

Kentucky Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
Adairville	98	683
*Albany	108	579
Alexandria	6	353
Allensville	97	436
Almo	94	225
Alms House	13	209
Alpine	110	360
Alvaton	99	209
Amos	101	420
Anchorage	13	384
Arlington	89	550
Asbury	55	290
Ashburyburg	68	750
Ashland	39	8,688
Athertonville	49	306
Auburn	98	631
Augusta	12	1,787
B		
Bailey Mine	39	309
Bandana	87	337
*Barbourville	117	1,633
*Bardstown	23	2,126
*Bardwell	89	1,087
Barlow	87	532
Barnsley	68	375
Barrenfork	110	560
Baskett	40	270
*Beattyville	79	1,364
Beaver Dam	47	762
*Bedford	1	269
Beech Grove	46	208
Bellevue	6	6,683
*Benton	93	824
Berea	55	1,510
Berkeley	89	309

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Kentucky Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Bernstadt	111	406
Berry	17	339
Bevier	69	208
Big Clifty	48	260
Big Spring	20	309
Birdsville	64	260
Birmingham	93	349
Blackford	45	449
Blanche	118	300
Blandville	87	229
Bloomfield	23	352
Bloomington	83	390
Bonanza	85	260
Bonham	111	280
Bonnieville	72	257
*Booneville	80	236
Bosworth	118	408
Botland	23	290
*Bowl'g Green	99	9,173
Bradfordsville	51	330
Bradshaw	78	396
*Brandenberg	20	482
Bremen	69	254
Brent	6	380
Brighton	28	350
Brodhead	77	477
Bromley	5	819
Bromley	9	819
*Brooksville	12	492
*Brownsville	71	313
Bruce	35	209
Buffalo	49	298
Bulah	90	260
Burgin	52	679
*Burkesville	105	817
Burnside	110	1,117
Butler	11	426
C		
*Cadiz	95	1,005
Cairnes	118	209
*Calhoun	46	742
California	6	248
Campbellsburg	8	269
*Campbellsv'le	74	1,206
Camp Nelson	27	660
*Campton	81	326
Canada	86	320
Caney	59	480
Caneyville	48	430
Cannel City	59	296
Carbondale	68	200
*Carlisle	31	1,283
Carrollton	2	1,906
Carrsville	64	298
Carter	38	259
Caseyville	44	230
*Catlettsburg	39	3,520
Cave City	102	645
Cayce	91	250
Centertown	47	299
Centerville	30	290
Central City	69	2,545
Cerulean	95	272
Chester	111	360
Chesley	68	220
Chinnville	36	209
Cicero	26	250
Clahill	36	290
Clarkson	48	376
Clay	45	1,098
Clay City	57	581
Clay Switch	92	260
Clearfield	37	209
Clermont	22	280
*Clinton	90	1,497
Cloverport	43	1,403
Coalport	117	275
Coalton	39	480
Cold Spring	6	660
Colesburg	21	220
College Hill	55	260
Colly	115	260
Colson	115	320
*Columbia	106	1,022
Columbus	90	970
Concord	35	213
Conway	77	226
Coolidge	110	250
Corbin	116	2,589
Corinth	10	252
Cornishville	52	360
Corydon	40	912
*Covington	5	53,200
Crab Orchard	76	467
Crescent Mine	111	250
Crescent Sprgs	5	350
Crofton	96	402
Cunningham	89	250
Curdsville	41	235
*Cynthiana	17	3,603
D		
Daley	113	360
*Danville	53	5,420
Dawsonsprings	68	1,350
Dayton	6	6,979
Dekoven	44	690
Denton	38	432
Dexter	94	260
Dishman	116	220
*Dixon	45	741
Drakesboro	69	1,126
Dry Ridge	10	360
Dundee	47	200
Dundee	57	402
Durbin	39	360
E		
Earlington	68	3,931
E. Bernstadt	111	698
East Point	62	250
Echols	47	250
*Eddyville	66	1,442
Eden	63	412
Edenton	55	381
*Edmonton	103	250
*Elizabethto'n	21	1,970
Elkhorn City	86	360
*Elkton	97	1,228
Ellisburg	75	325
Elsmere	5	960
Elvira	112	320
Eminence	8	1,274
Empire	96	220
Epworth	35	209
Erlanger	5	700
Ewing	34	390
F		
Fairfield	23	292
Falcon	83	220
Falls of Rough	48	250
*Falmouth	11	1,180
Fancy Farm	92	226
Farmers	37	427
Firebrick	35	260
Fiskburg	5	250
Fitch	38	380
Flat Lick	117	250
*Flemingsburg	34	1,219
Florence	4	250
Flossie	109	320
Folsomdale	92	250
Ford	29	702
Fordsville	47	649
Fortbranch	114	360
Fort Thomas	6	590
Frankfort (Capitol)	15	10,465
*Franklin	100	3,063
Fredonia	67	421
Fulton	91	2,575
Furguson	110	404
G		
Garnettsville	20	290
Garrison	35	206
*Georgetown	16	4,533
Germantown	12	287
Ghent	2	421
Gilbertsville	93	458
*Glasgow	102	2,316
Glasgow Jct.	102	303
Glencoe	3	237
Glensboro	25	250
Glen Dean	43	269
Gourd	115	360
Grahn	38	350
Grahamton	20	325
Grand Rivers	64	320
Gratz	9	213
Gray	117	400
*Grayson	38	735
*Greensburg	73	450
*Greenup	36	680
*Greenville	69	1,604
Greenwood	110	460
Grit	111	320
Guthrie	97	1,096
H		
Hagerhill	62	251
Haldeman	37	280
Halsey	116	390
Hamby Sta.	68	220
Hanson	68	509
Hardin	93	366
*Hardinsburg	43	737
*Harlan	119	560
*Harrodsburg	52	3,147
*Hartford	47	976
*Hawesville	42	1,002
*Hazard	114	537
Hazel	94	306
Hazel Green	81	257
Hebbardsville	40	350
Hellier	86	525
*Henderson	40	11,452
Henshaw	44	306
*Hickman	91	2,736
High Bridge	27	296
Highland Park	13	1.977
Hillside	69	569
*Hindman	84	370
*Hodgenville	49	744
*Hopkinsville	96	9,419
Horse Cave	72	881
Hutsonville	76	384
*Hyden	113	316
I		
Idamay	79	200
*Inez	63	412
*Irvine	56	272
Irvington	43	665
Island	46	647
J		
*Jackson	82	1,346
Jeffersontown	13	345
Jellicocreek	116	546
Jonesville	9	648
Junction City	53	747
K		
Keene	27	590
Kensee	116	206
Kevil	87	200
Kewanee	86	226
Kidds Store	75	309
Kings Mount'n	76	350
Kirkmansville	97	206
Kirksey	94	260
Knottsville	41	212
Kuttawa	66	889
L		
La Center	87	426
La Fayette	96	266
*La Grange	7	1,152
*Lancaster	54	1,517
Latonia	5	1,882
*Lawrenceb'g	25	1,723
Layman	119	206
*Lebanon	51	3,079
Lebanon Jct.	22	807
Lee City	81	269
*Leitchfield	48	1,053
Lesbas	111	290
Lewisburg	98	253
Lewisport	42	596
*Lexington	28	35,099
*Liberty	75	330
Little	36	290
Little Hickm'n	27	250
Little Rock	30	280
Livermore	46	1,220
Livingston	77	685
*London	111	1,638
Lot	116	250
*Louisa	61	1,356
*Louisville	13	223,928
Lovelaceville	87	400
Lowes	92	220
Ludlow	5	4,163
Lunah	82	206
M		
McHenry	47	530
McKinney	76	420
McNeal	39	206
*Madisonville	68	4,966
*Manchester	112	626
*Marion	65	1,627
Marrowbone	105	280
Marshall	19	220
Maxon Mill	88	360
*Mayfield	92	5,916
Mays Lick	19	308
*Maysville	19	6,141
Mead	39	200
Mentor	6	250
Mercer	69	1,290
Middlesboro	118	7,308
Middletown	13	302
Midway	26	937
Milburn	89	207
Millersburg	30	799
Milton	1	355
Mining City	70	250
Mitchellsburg	53	230
Monterey	9	260
*Monticello	109	1,338
Moorefield	31	209
Moores Ferry	33	560
*Morehead	37	1,105
Moreland	76	250
*Morganfield	44	2,725
*Morgantown	70	569
Mortons Gap	68	1,266
Mortonsville	26	202
Moscow	90	500
*Mount Olivet	18	321
Mount Pleasant	1	657
*Mt. Sterling	32	2,932
*Mt. Vernon	77	930
Mt. Washin't'n	22	460
Mouthcard	86	250
*Munfordville	72	475
Murphysville	19	859
*Murray	94	2,089
Myers	31	280
N		
Nebo	68	298
Nepton	34	235
Nerinx	51	220
Nevada	52	206
*New Castle	8	468
New Haven	23	405
New Hope	23	249
New Liberty	9	214
*Newport	6	30,309
*Nicholasville	27	2,935
Normal	39	300
North Fork	19	260
North Middletown	30	390
North Pleasureville	8	235
Nortonville	68	254
O		
Oakdale	82	2,073
Oakland	99	257
Oakton	90	206
Olive Hill	38	1,132
Olympia	33	260
*Owensboro	41	16,011
*Owenton	9	1,024
*Owingsville	33	942
P		
*Paducah	88	22,760
Paint Lick	54	225
*Paintsville	62	942
*Paris	30	5,859
Parkers Lake	110	280
Parksville	53	209
Patesville	42	300
Peach Orchard	61	580
Pembroke	96	731
Perryville	53	407
Petersburg	4	393
Pettit	41	280
Pewee Valley	7	651
Peytontown	55	209
*Pikeville	86	1,280
Pine Hill	77	506
Pine Knot	116	209
*Pineville	118	2,161
Pittsburg	111	934
Pleasant View	116	560
Pleasure Ridge Park	13	220
Pleasureville	8	522
Pollard	39	1,506
Powderly	69	309
Praise	86	306
*Prestonsburg	85	1,120
Princess	39	306
*Princeton	67	3,015
Providence	45	2,084
Pryorsburg	92	242
Puncheon	84	390
Q		
Quincy	35	285
Quinton	110	506
R		
Randville	35	250
Redash	116	590
Regina	86	260
Render	47	306
*Richmond	55	5,340
Riverton	36	290
Robard	40	334
Robbins	82	209
Robinet	77	260
Robinson Creek	86	250
Rochester	70	437

Kentucky Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Rockport	47	658
Rowland	76	590
Rowletts	72	233
Ruddells Mills	30	240
Rumsey	46	413
Rural	86	209
Russell	36	1,038
*Russellville	98	3,111
S		
Sacramento	46	438
Sadieville	16	467
Saint Charles	68	660
Salem	64	320
Salt Lick	33	532
Salvisa	52	309
Salyersville	83	310
Sanders	2	250
Sandyfork	113	250
Sardis	19	261
Science Hill	110	257
*Scottsville	101	1,327
Sebree	45	1,509
Sedalia	92	250
Shady Grove	65	206
Shannondale	28	290
Sharongrove	97	306
Sharpsburg	33	410
Shawhan	30	390
Shelby City	53	275
*Shelbyville	14	3,412
*Shepherdsville	22	318
Sherburne	34	253
Sherman	10	350
Shively	13	280
Siloam	36	290
Slade	57	402
Slate Lick	55	290
Slaughterville	45	443
Sloans Valley	110	220
Smithfield	8	350
*Smithland	64	557
Smiths Grove	99	726
Smith Mills	40	390
*Somerset	110	4,491
Sonora	21	250
South Carrollton	69	365
South Gate	6	627
South Portsmouth	36	520
Spottsville	40	448
*Springfield	50	1,329
Stamping Ground	16	381
*Stanford	76	1,532
*Stanton	57	278
Stephensport	43	205
Stewartsville	10	209
Stinson	38	200
Stithton	21	390
Sturgis	44	1,467
Sulphur	8	255
Su'mer Shade	103	210
Summersville	73	320
Switzer	15	390
T		
Talcum	84	208
Taylor Mines	47	353
*Taylorsville	24	622
Templer	111	290
Tipple	88	509
Tolesboro	35	460
*Tomk'sville	104	639
Torchlight	61	220
Travelers Rest	80	296
Trenton	97	653
Turnersville	76	280
Tyler	88	506
Tyrone	25	544
U		
Union	4	275
Uniontown	44	1,356
Urban	112	406
Utica	41	390
V		
Valley View	55	596
Vanceburg	35	1,145
Verona	4	220
*Versailles	26	2,268
Vine Grove	21	570
Visalia	5	250
Viva	111	250
W		
Waco	55	210
Waddy	14	254
Wallsend	118	506
Walton	4	650
*Warsaw	3	960
Washington	19	433
Wasioto	118	360
Waterford	24	206
Water Valley	92	228
Waverly	44	311
Webbville	61	260
Wentz	114	290
West Covington	5	1,751
*West Liberty	59	442
West Point	21	782
Westport	7	390
Wheatcroft	45	490
White Plains	68	281
*Whitesburg	115	321
Whitesville	41	452
*Wickliffe	87	989
*Williamsburg	116	2,004
Williamsport	62	290
*Williamstown	10	806
Wilmore	27	1,060
Wilton	117	206
*Winchester	29	7,156
Wingo	92	404
Woburn	82	217
Wolf	38	306
Woodburn	99	217
Woodville	88	250
Worthville	2	326
Y		
Yale	33	260
Yelvington	41	406
Z		
Zion	40	224

KENTUCKY

The Blue Grass Regions—Fine Live Stock—Support of the Union Cause

GENERAL DESCRIPTION OF THE STATE.

Kentucky. Historic name. It is difficult to do justice or even partial justice to this state in so many ways renowned. Here **Daniel Boone** explored portions of the state in 1769, built a fort at the point occupied by the **village of Boonsboro,** in Clark Co., Ky., in 1775. Had numerous skirmishes with the Indians, but survived to remove to Upper Louisiana, in 1798, to a tract of land, comprising 2,000 acres, given to him by the Spanish authorities. He settled **with his family** and followers at Charette, on the Missouri River, beyond the inhabited regions of the country, and there followed the occupation of **hunting and trapping** bears till his death, which occurred in 1820. He was one of the **daring land seekers** and pioneers, who was brave enough to contend with the difficulties which sometimes **beset settlers** in a new country.

DISTINGUISHED MEN OF KENTUCKY.

Kentucky was the home of **Henry Clay** for 50 years, 46 years of which period he ably represented his state in Congress, being **outspoken** in favor of the **abolition of slavery.** He was the author of tariff legislation favorable to protecting infant industries in the United States; **was the author** of the "Missouri Compromise," favored the recognition of the **South American Republics,** the independence of Texas, and many public measures of great importance; speaker of the House for a time; secretary in cabinet of John Quincy Adams; candidate for Congress in 1824 and 1832 and a most graceful and **polished speaker.** He was for nearly a half century one of the **most influential** members of the National legislature ever in Congress.

Here at Lexington was the home of Cassius M. Clay, from 1840 to the close of his official life, as Minister to Russia in 1869. He was in the Mexican war, was an out and **out opponent** of slavery. His paper, **The True America,** was destroyed by a pro-slavery mob. He subsequently revived his paper and circulated it in Kentucky, although printed in Cincinnati. His "Life, Writings and Speeches" are published in two volumes.

THE REGION OF FEUDS.

Here was the feud region of the South, where misunderstanding and ill feeling arising between two families would go **on and on,** through a generation, the fire of animosity and revenge only becoming extinguished when the last surviving member of one family was shot by a member of the other family, which happened to survive.

Happily these feud quarrels and the manufacture of illicit whisky by moonshiners in the mountains are becoming past events in the onward march of the civilization of the South. We allude to them here only **as relics** of a peculiar people in a past age.

Though a slave state, every possible effort was made by the Governor and the authorities of Kentucky to keep the State out of the ranks of the seceded states during the Civil War. This was successful in that no act of secession was passed, but some 40,000 men of the state went into the Confederate service. The loyalty to the Union cause was demonstrated, however, by 91,900 troops being recruited for the Union side. **This is also** long past history.

FAMOUS BLUE GRASS REGION OF KENTUCKY.

Kentucky contains the celebrated Blue Grass region. From this section of the United States come the famous Kentucky **high bred horses** and the premium Shorthorn cattle.

Of the 40,000 square miles of territory, it is claimed that there are not over 200 square miles of irreclaimable land. The southeast part of the state is broken by the Cumberland mountains, none of whose summits attain over **3,000 feet** in height. The hills and valleys are **well wooded.** West and north of this region lies a gently undulating upland, intersected by rivers flowing through deep valleys. The soil of this region is of the very finest quality, being in fact what is known as the Blue Grass region, extending from the Ohio River, southward, to the Cumberland River, through the central portion of the state. **The barrens,** so called, lie to the westward of the blue grass country. The region is being brought forward farmed, and though naturally **not** so fertile as the blue grass soil, bids fair, under proper management, to be profitable land to cultivate.

Land seekers are advised to investigate this region carefully.

COAL AND HYDRAULIC LIMESTONE FOR CEMENTS.

The coal measures, which occupy the whole eastern part of the state, are a part of the great Appalachian coal field, which overspreads western Virginia and Pennsylvania.

Limestones of wide extent and great thickness are found. Hydraulic limestone is found near the falls at Louisville and is extensively used in the manufacture of cement.

The Mammoth Cave, in Edmenson Co., near Green River, is one of the wonders of the world, which people from all parts of the earth come great distances to see. It has been **explored for a distance** of more than 10 miles.

That this region has been, in former times, the abode of mammoth animals is shown in the finding of the remains of the **mastodon, mammoth,** musk ox, elk, etc., in large numbers.

Kentucky Opportunities in Agriculture and Varied Enterprises

SALT BEDS OF KENTUCKY.

In Clay and Meade Cos. salt is obtained in large quantity by boring. **Iron ores** are found in the northeast corner of the state, where numerous furnaces are in operation. **Other products** of the state are saltpeter, gypsum, natural gas, asphaltum and petroleum.

WILD ANIMALS AND FORESTS OF KENTUCKY.

Of the larger wild animals deer yet remain in abundance. The smaller animals, including the badger, raccoon, groundhog, rabbit, oppossum, etc., are yet common, as are the **wild turkey,** partridge, ducks, etc.

In the forests, which yet cover a large part of the State, particularly in the river valleys, may be found a numerous variety of trees, comprising the ash, elm, white pine, yellow pine, tulip, hickory, sweet gum, black walnut, sugar maple, white, red and black oaks, locust, buckeye, cottonwood, coffee tree, cypress and catalpa.

That enterprising, industrious tillers of the soil can be well rewarded for their labor throughout all portions of the state, is revealed by a study of climatic conditions. The average annual temperature is about 55. **Winter continues** from the last of November till the first of April, but snowfalls are light and seldom remain long upon the ground. The average **annual rainfall** for the state is 47 inches, which ensures almost invariably a regular and abundant crop.

With the abundance of streams traversing the State in all directions along the elevations it is highly probable that many of the valleys could be irrigated, making them absolutely free from any possibility of loss of crops from drouth.

FERTILIZING MATERIAL IN THE BLUE GRASS REGION.

The blue grass region covers something over 10,000 square miles. This portion of the state is overlaid with a **substratum** of limestone, which is continually undergoing decay. This serves as **fertilizer,** enriching the soil to such a degree that abundant crops can be grown on the same land **for a century** without apparently diminishing the fertility of the land.

People in search of location for homes should visit the blue grass region. What is there about limestone that so tends to fertilize the soil? Is it the stone itself in bulk or must it be pulverized? Is the disintegration of the stone on the soil through the natural process of exposure to air necessary to secure fertilization? or can this stone be ground into a fine meal, taken elsewhere and spread upon land with favorable result?

Used anywhere this limestone is a superior fertilizer. The agriculturist of the blue grass region has the advantage of having this material right on the ground, and **fortunate is the agriculturist** who owns a farm in the blue grass country of Kentucky.

A very certain crop in this state is tobacco. Other crops in their order are corn, oats, wheat, potatoes, hay and rye. Apples and peaches are the reliable fruits.

The principal industries in the order of value of output are distilling liquors, flour and grist milling, lumber making from logs, manufacturing chewing and smoking tobacco and snuff, foundry and machine shop work, slaughtering and meat packing, stemming tobacco, tanning leather, malt liquors, wooden goods, iron and steel furniture, agricultural implements, cigars, brick, tile and cotton goods.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude. Highest at Big Black Mountain, in Harlan Co., 4,100 feet.

Climate. Average annual January temperature at Louisville, 34 above, July 79. Extremes, 107 and 20 below.

Dimensions. Extreme length of state, 350 miles. Extreme width, 175 miles. Area of state, 40,400 square miles.

History. Was formerly a portion of the territory of Virginia. The first white explorer was John Finley, who went there with a few companions in 1767. Daniel Boone, Finley and others went there in 1770. In 1774 a settlement made at Harrodsburg by James Harrod and others. A fort built by Daniel Boone at Boonesboro. Several skirmishes and battles with the Indians. Kentucky organized as a territory in 1790. Admitted to the Union as a state in 1792.

THE MAMMOTH CAVE OF KENTUCKY.

From an article by W. Stump Farward, published in the American Cyclopedia, we gather the following:

Mammoth Cave, the largest cavern known, situated near Green River in Kentucky, about seventy-five miles south by southwest of Louisville.

Its mouth is reached by passing down a wild rocky ravine through a dense forest. It is an irregular funnel-shaped opening, from fifty to one hundred feet in diameter at the top, with steep walls about fifty feet high.

The cave extends about nine miles, and it is said that to visit the portions already traversed requires from 150 to 200 miles of travel. This vast interior contains a succession of marvelous avenues, chambers, domes, abysses, grottoes, lakes, rivers, cataracts, etc., which for size and wonderful appearance are unsurpassed.

The rocks present numerous forms and shapes of objects in the external world, while stalagmites and stalactites of gigantic size and fantastic form abound, though not so brilliant and beautiful as are found in some other caves.

Chief among the objects of interest are Silliman's Avenue, about one and a half miles long, from twenty to two hundred feet wide, and from twenty to forty feet high; Marion's Avenue, of about the same dimensions; the Star Chamber, about 500 feet long and seventy feet wide, the ceiling of which, seventy feet high, is composed of black gypsum and is studded with innumerable white points, which by a dim light present a most striking resemblance to stars; and Cleveland's Cabinet, an avenue about two miles long, spanned by an arch of fifty feet, with an average central height of ten feet.

By many the last is regarded as the most wonderful object in the cave. It is encrusted, from end to end, with the most beautiful formations in every variety of form. The base of the whole is sulphate of lime, in one part of dazzling whiteness and perfectly smooth; and in other places crystallized so as to glitter like diamonds in the light.

Growing from this in endless diversified forms is a substance resembling selenite, translucent and imperfectly laminated. Some of the crystals bear a striking resemblance to celery, and all are of about the same length; while others, a foot or more in length, have the color and appearance of vanila cream candy; others are set in sulphate of lime, in the form of a rose, and others still roll out from the base in forms resembling the ornaments on the capital of a Corinthian column.

Some of the incrustations are massive and splendid; others are as delicate as the lily or as fancy work of shell or wood.

Sidesaddle Pit, over which rests a dome sixty feet high, is about ninety feet deep and twenty feet across. This and some of the other pits and domes in the cave have been formed out of the solid rock by the solvent action of water charged with carbonic acid.

The deepest of the pits are the Maelstrom, 175 feet in depth, and twenty feet in diameter, and the Bottomless Pit, about the same depth.

There are several bodies of water in the cave, the most considerable being Echo River, which is about three-fourths of a mile long, 200 feet wide at some points and from ten to thirty feet deep, its course being beneath an arched ceiling of smooth rock, about fifteen feet high. This river has invisible communication with Green River, the depth of water and the direction of the current in the former being regulated by the stage of water in the latter.

The River Styx, 450 feet long, fifteen to forty feet wide, and from thirty to forty feet deep, is spanned by an interesting natural bridge about thirty feet above it.

Lake Lethe is about 450 feet long and from ten to forty feet wide, and varies in depth from three to thirty feet. It lies beneath a ceiling about ninety feet above its surface. Its waters sometimes rise to a height of sixty feet in consequence of freshets in Green River.

The Dead Sea is gloomy body of water somewhat smaller than the preceding two. Remarkable species of animal life are found in the cave in the form of an eyeless fish and the eyeless crawfish, which are nearly white in color. Another species of fish has been found with eyes, but totally blind.

Other animals known to exist in the cave are lizards, frogs, crickets, rats, bats, etc., besides ordinary fish and crawfish washed in from Green River.

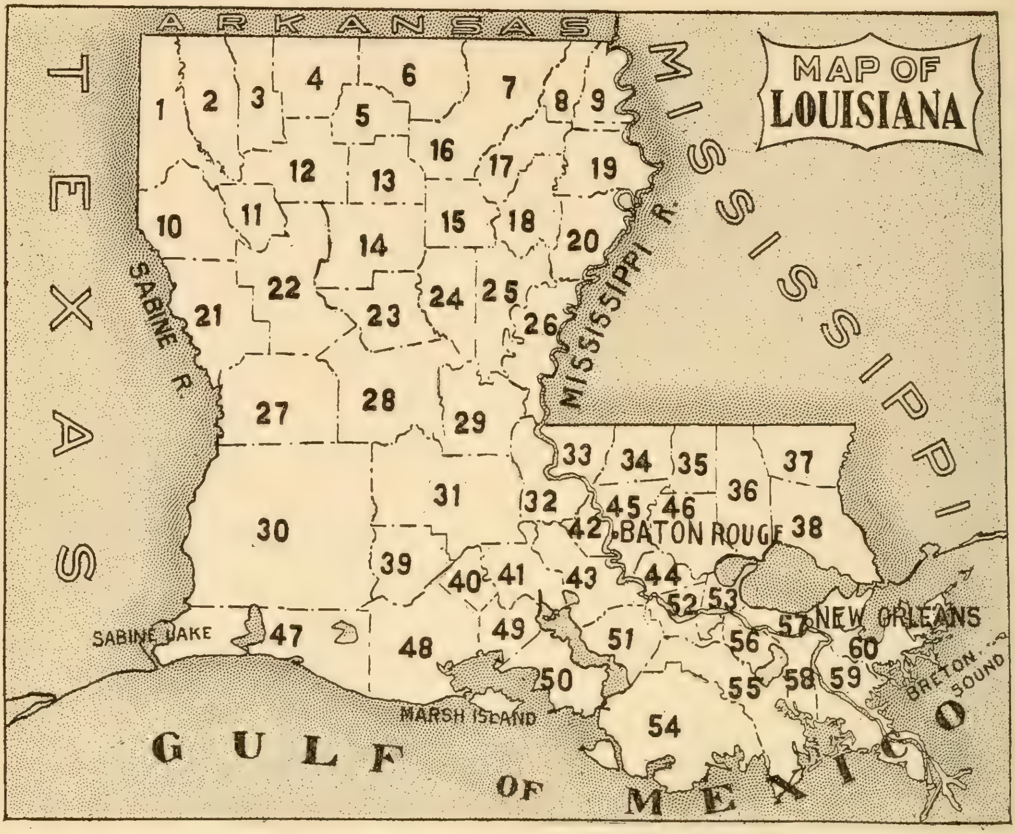
The atmosphere of the cave is pure and healthful; the temperature, which averages 59 degrees above zero, is about the same winter and summer, not being affected by climate outside.

The Mammoth Cave was discovered in 1809 and has always been the property of private individuals. For sometime after its discovery saltpetre was made there.

In this vicinity are also Proctor's Cave, about three miles in length; White Cave, Diamond Cave and Indian Cave, each about a mile long.

STATE AND THE 60 COUNTIES OF LOUISIANA

With Their Boundaries



LOCATION AND 1910 POPULATIONS OF LOUISIANA PARISHES (COUNTIES).

Loca.	County	Pop.
1	Caddo	58,200
2	Bossier	21,738
3	Webster	19,186
4	Claiborne	25,050
5	Lincoln	18,485
6	Union	20,451
7	Morehouse	18,786
8	West Carroll	6,249
9	East Carroll	11,637
10	De Soto	27,689
11	Red River	11,402
12	Bienville	21,776
13	Jackson	18,818
14	Winn	18,357
15	Caldwell	8,593
16	Ouachita	25,830
17	Richland	15,769
18	Franklin	11,989
19	Matuson	.....
20	Tensas	17,060
21	Sabine	19,874
22	Natchitoches	36,455
23	Grant	15,958
24	La Salle	9,402
25	Catahoula	10,415
26	Concordia	14,278
27	Vernon	17,384
28	Rapides	44,545
29	Avoyelles	34,102
30	Calcasieu	62,767
31	St. Landry	66,661
32	Coupee	.....
33	West Feliciana	13,449
34	East Feliciana	20,055
35	St. Helena	9,172
36	Tangipahoa	29,160
37	Washington	18,886
38	St. Tammany	18,917
39	Acadia	31,847
40	Lafayette	28,733
41	St. Martin	23,070
42	W. Baton Rouge	12,636
43	Iberville	30,954
44	Ascension	23,887
45	E. Baton Rouge	34,580
46	Livingstone	10,627
47	Cameron	4,288
48	Vermillion	26,390
49	Iberia	31,262
50	St. Mary	39,368
51	Assumption	24,128
52	St. James	23,009
53	St. John the Baptist	14,338
54	Terrebonne	28,320
55	La Fourche	23,111
56	St. Charles	11,207
57	Orleans	339,075
58	Jefferson	18,247
59	Plaquemines	12,524
60	St. Bernard	5,277
	Total	1,656,388

Louisiana Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
*Abbeville	48	2,907
Abita Springs	38	365
Adeline	50	808
Albemarle	51	1,202
Alberta	12	590
Alden Bridge	2	560
*Alexandria	28	11,213
Allemands	56	506
Alliance	59	220
Ama	56	890
Amelia	50	400
Amelia	50	460
Amesville	58	290
*Amite	36	1,677
Anchor	32	390
Angie	37	346
Ansley	13	660
Antrim	2	350

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Louisiana Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Arabi	60	250
Arbroth	42	390
*Arcadia	12	1,079
Argyle	32	260
Arnaudville	31	279
Ashland	22	200
Athens	4	514
Atkins	2	360
Atlanta	14	311
Avery Island	49	208
Avoca	51	280
Ayers	21	250
B		
Baldwin	50	1,062
Bancroft	30	290
Barataria	58	660
Barham	27	250
*Bastrop	7	854
Batchelor	32	290
Baton Rouge (capital)	45	14,897
Bayou Goula	43	1,020
Bayou Lacomb	38	600
Bayou Sara	33	630
Baywood	45	360
Belair	59	660
Belcher	1	260
Bell City	30	325
Belle Alliance	51	860
Belledean	29	409
Bellerose	51	506
Benson	10	209
Bentley	23	209
*Benton	2	318
Bermuda	22	270
Bernice	6	781
Bertrandville	59	360
Berwick	50	2,183
Bethany	1	250
Bienville	12	606
Bijou	28	250
Blanchard	1	260
Bogalusa	37	1,808
Boleyn	22	350
Bolinger	2	380
Bonami	30	309
Bonita	7	273
Bossier	2	773
Bourg	54	569
Boutte	56	309
Bowie	55	1,060
Boyce	28	865
Breaux Bridge	41	1,339
Brice	12	250
Broussard	40	449
Brusly	42	390
Bryceland	12	250
Bunkie	29	1,765
Buras	59	560
Burton	52	406
C		
Calhoun	16	260
*Cameron	47	260
Campti	22	664
Carencro	40	609
Carson	30	560
Carville	43	306
Caspiana	1	250
Cataro	31	260
Centerville	50	509
Charenton	50	402
Chauviu	54	260
Cheneyville	28	498
Cheniere	16	226
Choudrant	5	360
Church Point	39	481
Cinclare	42	406
Clarks	15	750
*Clinton	34	918
Clouterville	22	360
Cocoville	29	590
*Colfax	23	1,049
Collinston	7	333
*Columbia	15	580
*Convent	52	390
Converse	21	260
Cooper	27	309
Cottonport	29	866
Cotton Valley	3	750
*Coushatta	11	564
*Covington	38	2,601
*Crowley	39	5,099
Cut Off	55	260
Cypremort	50	206
D		
Daniels	30	325
Dean	6	320
Delcambre	49	308
Delhi	17	685
Delta	19	290
Denham Spgs.	46	574
De Quincy	30	715
De Ridder	30	2,100
Des Allemands	56	560
Diamond	59	360
Dime	59	200
Dodson	14	845
*Donaldsville	44	4,090
Donner	54	260
Dorcyville	43	206
Doyline	3	390
Dubach	5	714
Dubberly	3	206
Dubuisson	31	250
Dunbar	38	260
E		
Echo	28	238
*Edgard	53	250
Edna	30	220
Elizabeth	30	290
Ellendale	54	360
Empire	59	208
Eola	29	460
Erath	48	575
Eros	13	898
Estherwood	39	544
Eunice	31	1,684
Evangeline	39	460
Evans	27	225
Evergreen	29	299
F		
*Farmerville	6	598
Ferriday	26	577
Fisher	21	1,060
Florien	21	250
*Floyd	8	260
Fordoche	32	220
Forest Hill	28	260
Fort Jesup	21	1,026
*Franklin	50	3,857
*Franklinton	37	814
Frierson	10	308
Fryeburg	12	290
Fullerton	27	1,238
G		
Garden City	50	560
Garyville	53	1,060
Genesee	36	606
Gheens	55	560
Gibsland	12	1,065
Gibson	54	290
Gilbert	18	250
Gladis	37	560
Glenwild	50	506
Good Pine	24	508
Grace	14	250
Grand Cane	10	485
Grand Coteau	31	392
Grand Isle	58	252
Grappes Bluff	22	360
Grayson	15	206
*Greensburg	35	268
Greenwood	1	250
*Gretna	58	3,500
Grosse Tete	43	506
Gueydan	48	1,085
Guiletts	36	260
H		
Hackberry	47	220
Hahnville	56	306
Hall City	30	890
Hammond	36	2,942
*Harrisonburg	25	361
Haughton	2	249
Hawthorn	27	280
Haynesville	4	663
Hecker	30	400
Hermitage	42	208
Hodge	13	360
Holly	10	406
*Homer	4	1,855
Hope	12	260
Hornbeck	27	459
Hosston	1	280
*Houma	54	5,024
Husser	36	280
Hydropolis	29	590
I		
Ida	1	520
Independence	36	1,004
Iota	39	769
J		
Jackson	34	2,146
Jacoby	32	275
Jeanerette	49	2,206
*Jena	24	689
Jennings	30	3,925
Jesuit Bend	59	243
Jonesboro	13	1,134
Jonesville	25	287
Juanita	30	360
Junction City	6	396
K		
Kahns	42	250
Kaplan	48	315
Keatchie	10	560
Kelloggs Landing	19	350
Kenner	58	1,253
Kentwood	36	3,609
Kinder	30	635
Klotzville	51	508
L		
Labadieville	51	506
*La Fayette	40	6,392
Lafourche Crossing	55	360
Lake	44	360
Lake Arthur	30	1,093
Lake Charles	30	11,449
*Lake Providence	9	1,568
Lakeside	47	225
Lanesville	3	400
L'Argent	26	280
Laura	51	206
Lecompte	28	1,058
*Leesville	27	2,043
Lena Station	28	260
Leonville	31	306
Lettsworth	32	750
Lincecum	23	520
Little Texas	51	280
Livonia	32	380
Lobdell	42	590
Lockport	55	669
Lofton	14	290
Logansport	10	420
Logtown	16	260
Long Bridge	29	560
Longleaf	28	506
Longwood	9	250
Loreauville	49	291
Loring	21	706
Ludington	30	380
Ludwine	55	220
Luling	56	350
Lutcher	52	1,026
M		
McCall	44	700
McDonoghville	58	2,500
Madisonville	38	1,028
Mailard	50	290
Mandeville	38	1,166
Mangham	17	470
*Mansfield	10	1,799
Mansura	29	695
*Many	21	683
Marco	22	390
Maringouin	43	447
Marion	6	626
*Marksville	29	1,076
Marthaville	22	285
Mathews	55	1,306
Melville	31	1,093
Mermenton	39	383
Mer Rouge	7	536
Midland	39	260
Millikens Bend	19	260
Milton	40	206
*Minden	3	3,002
Moberly	56	508
*Monroe	16	10,209
Montpelier	35	660
Montrose	22	250
Mooringsport	1	709
Moreauville	29	728
Morgan City	50	5,477
Morganza	32	296
Morse	39	237
Mossville	30	290
Mt. Lebanon	12	260
Myrtistown	1	326
N		
Nairn	59	309
Naomi	59	220
*Napoleonville	51	1,201
*Natchitoches	22	2,532
Neame	27	500
Neptune	59	330
Nero	59	450
Nesser	45	230
Nettie	44	260
Newellton	20	424
*New Iberia	49	7,499
Newlin	30	208
*New Orleans	57	339,075
*New Roads	32	1,352
Nicholls	59	250
Ninock	2	250
Noble	21	453
O		
Oakdale	30	500
Oak Grove	8	398
Oak Ridge	7	332
Oberlin	30	232
Oil City	1	400
Old River	22	250
Olla	24	260
*Opelousas	31	4,623
Orange	27	360
P		
Paincourtville	51	550
Parcperdue	49	260
Parks	41	350
Patterson	50	2,998
Pearl River	38	277
Pelican	10	360
Pickering	27	750
Pineville	28	1,212
Pioneer	8	950
Plain Dealing	2	474
*Plaquemine	43	4,955
Plaucheville	29	380
Pleasant Hill	21	442
*Pointe a la Hache	59	560
Pollock	23	675
Ponchatoula	36	1,055
*Port Allen	42	750
Port Barre	31	660
Port Barrow	44	802
Port Eads	59	260
Port Hudson	45	350
Port Vincent	46	260
Potash	59	250
Powhatan	22	220
Prairieville	44	230
Provencal	22	262
Q		
Quitman	13	215
R		
Raceland	55	560
Ramos	50	250
Ramsay	38	425
Randall	32	306
Randolph	6	590
Randolph Jct.	6	560
Rayne	39	2,247
*Rayville	17	1,079
Reserve	53	408
Richardson	37	319
Ringgold	12	490
Rio	37	265
Robeline	22	438
Rochelle	23	660
Rosedale	43	406
Roseland	36	586
Rosepine	27	325
Ruddock	53	708
*Ruston	5	3,377
Rustville	27	250
S		
Saint Amelia	52	250
*St. Bernard	60	560
St. Francisville	33	966
St. Gabriel	43	750
*St. Joseph	20	740

Louisiana Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
*St. Martinville	41	2,318
St. Patricks	52	260
St. Rose	56	506
St. Tammany	38	275
Saline	12	346
Sarepta	3	320
Scotland	45	209
Scott	40	239
Sellers	56	269
Selma	23	860
Seymourville	43	560
*Shreveport	1	28,015
Sibley	3	489
Simsboro	5	282
Slaughter	34	284
Slidell	38	2,188
Smoke Bend	44	660
Sodus	21	350
Solitude	33	208
Springville	46	250
Springhill	3	750
Stables	27	620
Standard	24	806
Starlding	38	260
Sterlington	16	406
Strader	36	290
Sulphur	30	350
Sun	38	250
Sunset	31	377
Sycamore	28	290
T		
Taft Station	56	596
*Tallulah	19	847
Tangipahoa	36	394
Terre Haute	53	250
*Thibodaux	55	3,824
Tioga	28	633
Torras	32	560
Tremont	5	506
Trout	24	502
U		
Urania	24	250
V		
Vacherie	52	250
Vacherie Sta.	52	260
Venice	59	480
Verda	23	250
Victoria	22	350
*Vidalia	26	1,345
Vienna	5	580
Ville Platte	31	603
Vinton	30	809
Vivian	1	826
W		
Walker	46	592
Wallace	53	309
Walls Lake	16	290
Washington	31	1,528
Water Proof	20	445
Weeks	49	260
Welsh	30	1,250
Westlake	30	1,500
West Monroe	16	1,127
Westwego	58	560
White Castle	43	2,289
Whitehall	46	206
Wilson	34	762
*Winnfield	14	2,925
*Winnsboro	18	821
Winona	14	223
Wyatt	13	336
Y		
Yellow Pine	3	1,000
Youngsville	40	328
Z		
Zachary	45	419
Zimmerman	28	560
Zwolle	21	973

LOUISIANA

An Ideal Region for the Agriculturist on a Fertile Soil Made from the Wash of Many States

So many good things are to be said of Louisiana it is difficult to do the State justice with the limited space at our command.

COUNTRY LAND BELOW RIVER LEVEL

So far as topography of the State is concerned it has the single disadvantage in some portions of being low, much of the southern part of the State being not more than **ten feet above** sea level and liable to frequent inundations. The land along the Mississippi River, below New Orleans, and 120 miles above, is below the surface of the river at high water and is protected from inundation by artificial embankment, called levees. A break in the levee, called a crevasse, sometimes occurs, inundating hundreds of thousands of acres of valuable land.

At present the levee lines by which the shores of rivers are protected in Louisiana from overflow are about 1,430 miles long. Of this 865 miles are situated on the Mississippi River, 395 miles on the Red River and tributaries, 70 miles on the Atchafolaya and 150 miles on Bayou Lafourche.

COST OF MAINTAINING THE LEVEES

To maintain the levees, and protect all low land from inundation, the State levies a **general tax of one mill** on the dollar, which yields **$315,000** a year. A **special tax** of 2½ cents per acre and a **produce tax** is levied, in the levee district, which yields **$1,000,000 annually.** Besides this the United States Government has expended for several years yearly **about $700,000** for levee protection through the Mississippi River Commission. Thus it is seen that a thoroughly efficient system is being pursued for **the protection** of the agricultural interests in Louisiana.

While this is something of a tax on farmers of this region, it is so light, compared with benefits, that no one complains. **It should be** understood that this vast area of low land, comprising about **one-half** of the State, for thousands of years, has been receiving fertilizing sediment brought down by the Mississippi River, from the up country.

As the soil in the valleys of Egypt have, for countless centuries, been enriched by the overflow of the Nile, so these Louisiana low lands posssess a soil of the very richest fertility. Added to this an **annual rainfall,** in this section, of over 60 inches, accounts for the fact of abundant crops and no crop failures.

WHAT CAN BE GROWN IN LOUISIANA

Should the question be asked as to what can be grown here, the reply may be, "Ask what cannot be grown."

Either on the uplands or the lowlands, nearly all crops, natural to the North, can be grown, the warm temperature, long seasons with abundant rainfall, permitting two or three crops to be grown on the same land during a year.

Included in the list of crops which can be grown are vegetables of all kinds, fruits in great variety, pecans and oranges in South Louisiana; bananas and pineapple on the Gulf Coast; sugar cane all over the State; rice, cotton and a great many other products.

"LOUISIANA YESTERDAY AND TOMORROW"

Walter Parker has written an article on the changes taking place in the agricultural development of the State, particularly with reference to the reclamation of wet lands, which contains much important information. He says:

> Because Louisiana's climate is mild and her soil is immensely fertile, her sons and daughters have never had to work very hard to earn the necessaries of life. And it has only been recently, when great tracts of Louisiana's alluvial prairies began passing from the hands of ancient owners into the hands of enterprising land developers, that the spirit of American enterprise, as it is understood throughout the Middle West, became manifest. The work of reclamation and development is now progressing rapidly, and thousands of thrifty farmers become land owners and move into the State each year.
>
> **Yesterday,** Louisiana was the home of the great planter whose broad acres of sugar cane and cotton were cultivated by hired negro labor. The planter and his family resided in pleasure-loving New Orleans. On many a place of 5,000 acres no more than five white men resided. The negro does not vote in Louisiana because of the property and educational qualifications. Consequently, throughout the richest agricultural areas in the State the franchise was largely exercised by men whose direct interests were more or less plutocratic, therefore largely contrary to the spirit of the great Middle West.
>
> **Today,** all this is undergoing complete change. The huge stretches of alluvial prairies, which were built up by silt deposits from the overflowing Mississippi river, are being drained by modern machinery in such a way as to create navigable canals to the harbor at New Orleans out of each main drainage canal. These virgin tracts are subdivided into 10, 20 and 40-acre farms and sold to homeseekers from Indiana, Illinois and other States, and to Hollanders, Germans and other high type agriculturists at less than half the price per acre the half worn- out farm lands in the Middle West now sell for.

THE BEGINNING OF RECLAMATION

> The work of reclamation began two years ago when the State of Louisiana withdrew all taxes on real estate mortgage loans, reclamation bond issues and similar forms of investment, and the influx of homeseekers began immediately. Because these artificially drained farms are highly productive and relatively cheap, the demand for them has run

ahead of the ability of the drainage machines, and in order to meet this demand, plantation estates are being cut up and sold off in small tracts. In this way all comers are served, and at the same time hundreds of voters are occupying areas on which hundreds of people lived but of which very few could vote. This means a complete change in the political aspect of agricultural Louisiana, and with that change is developing much greater agricultural influences on State and parish political affairs. This will mean better schools and more of them, better roads and expanding enterprise, which of course means better markets and improving values generally.

The Louisiana of tomorrow will be a very different commonwealth from that of yesterday, although the mild climate, the sea breezes, the hospitality of the people, and the wonderful soil will undergo no change. The metamorphosis will relate strictly to the use the new population will make of the advantages Nature has provided.

The new plows will plow deep and often—there is almost no limit to the productiveness of the soil nor is there any ice or snow to terminate growth and maturity—and the owners will accumulate bank rolls for later use.

Rapid refrigerator trains will haul Louisiana fruit and vegetables into the northern markets in increasing volume both before and after other sections can supply those markets.

ONE MILLION ACRES NEAR NEW ORLEANS

New Orleans, which has never had suburbs, will rest in the center of a **1,000,000-acre garden intensively cultivated** in 10-acre units. It will all be suburbs, closely linked with the city by interurban car lines.

The opening of the Panama Canal will create many new enterprises in city and Sate, and all of the new workers will require food. The clothing bill in South Louisiana does not have to include flannels and furs.

The other day a party of New York investors paid $600,000 for a canal that connects the Mississippi River with the Mississippi Sound in order to obtain an all-water route from the Alabama coal mines to New Orleans, where they will spend millions in creating a great coaling station from which to supply the demand the Panama Canal will create.

Another concern has arranged to establish a **great packing** plant at New Orleans to take care of the cattle that will be imported from South America. They expect the Panama Canal to give impetus to this new traffic.

Recently Louisiana **exempted** all over-sea steamship lines domiciled in Louisiana **from taxation** in order to encourage direct steamship lines from New Orleans to South America, where corn and manufactures are needed, and to the Far East, where cotton, rice and manufactures are needed.

Even now, about $25,000 worth of fresh vegetables from this part of the world are shipped to Panama each week, and the canal is not yet ready for business.

ONCE A PART OF THE GULF OF MEXICO

The soil formation of the Mississippi Valley, and particularly of Southern Louisiana, stands in a class by itself. Southern Louisiana was once a part of the Gulf of Mexico, and the land was built up from the bottom of the sea by silt deposits brought down by the river. The **tributaries** of the Mississippi river drain more than twenty States—the twenty States that during the past half century have stood at the head of the agricultural list.

The soil in all these States is constantly washing, and in solution is **carried southward** by the several rivers. These rivers rise at different times of the season from freshets, and from the melting of snow and ice. In this way at different times each year during many hundreds of years thin **layers of the silt** from various soils in the various sections were deposited in the sea, and gradually built up what is now the sugar, rice, orange and vegetable district of Louisiana. The land is all soil plum to the bottom of the prehistoric sea.

Some fifty years ago the building of levees protected these alluvial prairies from further overflows, and the great river is now busily engaged in extending Louisiana further and further to the southward in the Gulf. The drainage of these alluvial prairies began only three years ago when freedom from taxation, the invention of practical machinery, the high cost of living, the high price of Middle West lands, and the approaching completion of the Panama Canal turned widespread interest on Louisiana.

LOUISIANA AN EXPORTER INSTEAD OF AN IMPORTER

Since then Louisiana has become an exporter of corn in place of an importer, which was easy since the production of fifty bushels an acre without cultivation from sod corn is a simple matter on the alluvial prairies.

Recently, at the National Corn Exhibit at Columbus, Ohio, a 17-year-old boy—Stephen Henry, of Melrose, La.—won first prize in competition with 46,000 other boys. Henry exhibited the best ten ears, and won on 138 bushels grown by him on less than one acre at a total cost of 13½ cents per bushel. For the honor of representing Louisiana at the Columbus Show many boys competed with young Henry, and more than 100 of them produced over 100 bushels on a single acre.

Because of the open winter and the bottomless soil, the enterprising South Louisiana farmer who desires to pile up profit may keep his land continuously in use. During the winter, cabbages, onions and similar stuff are grown. Late winter finds the land planted in all kinds of high priced vegetables. Late in March the land goes into corn, which is harvested in July, sun dried and ready for export. During the fall many vegetables to catch the late season northern markets grow in profusion. Meanwhile, the busy farmer has no worries concerning fertilizer, nor does he fear soil exhaustion.

WHY SOIL IS SO RICH

On top of all the soil in South Louisiana there is a layer three to four feet thick of humus or decayed vegetable matter mixed in with the silt. The rich silt itself has no bottom.

Of this soil combination in Louisiana, Prof. Firman G. Bear, Chief Chemist of the Ohio State University, after having made an exhaustive analysis, said:

"There is enough nitrogen present in the first eight inches to supply nitrogen for 1,000 fifty-bushel crops of corn. I have never analyzed a soil with so high a percentage of nitrogen."

Corn experts estimate that in 1911 Louisiana will export 60,000,000 bushels of corn, 100,000,000 bushels in 1912, and probably 200,000,000 by 1915. Five years ago Louisiana annually imported 20,000,000 bushels of corn for feeding purposes.

Great credit is due the Louisiana Meadows Co., of New Orleans, the pioneers in the reclamation of the alluvial wet prairies of Southern Louisiana, for the remarkable transformation of vast areas of these wet lands into veritable gardens, with beautiful navigable canals—like Holland—to each farm, and the northern and western farmer with all his energy, progressiveness and courage, cultivating this wonderfully fertile soil the year round, much to his profit and happiness.

CONDENSED FACTS RELATING TO LOUISIANA

Altitude: Highest in State at Arcadia, Bienville county, 368 feet.

Climate: New Orleans, average temperature in January, 54; in July, 84; extreme, 102 and 7 above. Annual rainfall, 60.5 inches.

Dimensions: Extreme length, 275 miles; extreme width, 280 miles.

Mardi Gras: February.

History: Visited by DeSoto, 1541; Marquette, 1673; La Salle, 1682. Settlements made site of New Orleans about 1706. The territory ceded to Spain in 1762 and retroceded to France in 1800. Through Louisiana purchase came to United States in 1803. Seceded from Union in 1861. Captured by Samuel Farragut in 1862 and turned over to the Federal Army, General Butler coming into control of the city, succeeded by General Banks. Readmitted to the Union, 1868.

STATE AND THE 16 COUNTIES OF MAINE

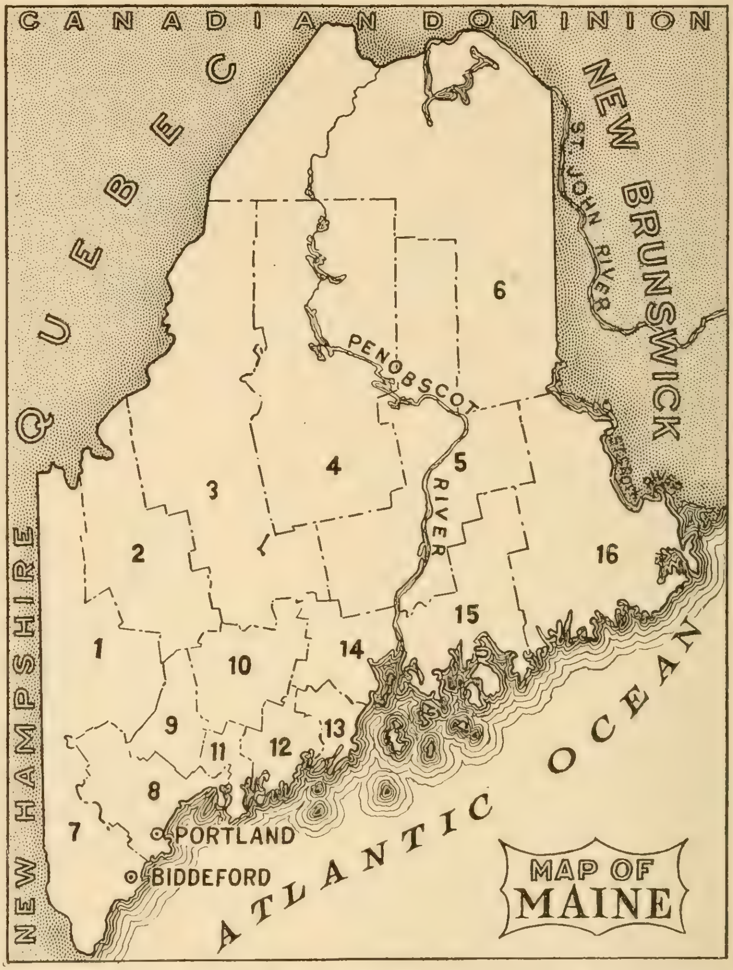
With Their Boundaries

LOCATION AND POPULATION OF MAINE COUNTIES

Location	COUNTIES	Pop. 1910
1	Oxford	36,256
2	Franklin	19,119
3	Somerset	36,301
4	Piscataquis	19,887
5	Penobscot	85,285
6	Aroostook	74,664
7	York	68,526
8	Cumberland	112,014
9	Androscoggin	59,822
10	Kennebec	62,863
11	Sagadohoc	18,574
12	Lincoln	18,216
13	Knox	28,981
14	Waldo	23,383
15	Hancock	35,575
16	Washington	49,905
	Total	742,371

LOCATION AND POPULATION OF MAINE CITIES AND VILLAGES 1910

Towns	Loca.	Pop.
A		
Abbot Village	4	716
Acadia	6	650
Acton	7	778
Addison	16	420
Albany	1	415
Albion	10	645
Alexander	16	333
*Alfred	7	645
Alna	12	506
Alton	5	348
Amherst	15	365
Andover	1	520
Anson	3	244
Appleton	13	1,080
Argyle	5	253
Ashland	6	1,260
Athens	3	896
Atkinson	4	273
Atlantic	15	432
*Auburn	99	15,064
Augusta (capital)	10	13,211
B		
Bailey Island	8	506
Baldwin	8	468
*Bangor	5	24,803
Bar Harbor	15	1,181
Baring	16	273
*Bath	11	9,396
Beals	16	508
Beans Corner	2	250
*Belfast	14	4,618
Belgrade	10	450
Belgrade Lakes	10	360
Bemis	2	280
Benedicta	6	450
Benton	10	520
Benton Falls	10	240
Berry Mills	2	250
Berwick	7	2,280
Bethel	1	834
Biddeford	7	17,079
Biddeford Pool	7	480
Bingham	3	802
Blaine	6	976
Blanchard	4	248
Blue Hill	15	1,828
Bolsters Mills	8	420
Boothbay	12	320
Booth Bay Harbor	12	2,060
Bouchard	6	506
Boundary	6	360
Bowdoin	11	420
Bowdoinham	11	1,302



Maine Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Bowery Beach	8	308
Bradford	5	495
Bradford Center	5	260
Bradley	5	283
Bremen	12	299
Brewer	5	5,667
Bridgewater Center	6	586
Bridgton	8	2,660
Bridgton Junction	1	310
Brighton	3	434
Bristol	12	706
Brooklin	15	506
Brooks	14	669
Brooksville	15	410
Brookton	16	429
Brownfield	1	1,025
Brownville	4	1,570
Brownville Junction	4	380
Brunswick	8	5,341
Bryant Pond	1	250
Buckfield	1	357
Bucksport	15	2,239
Bucksport Center	15	262
Burleigh	6	250
Burlington	5	394
Burnham	14	686
Buxton	7	861
Buxton Center	7	280
Byron	1	206
C		
Calais	16	6,116
Cambridge	3	421
Camden	13	3,015
Canaan	3	1,130
Canton	1	1,953
Cape Elizabeth	8	780
Cape Jellison	14	1,202
Cape Neddick	7	260
Cape Porpoise	7	660
Caratunk	3	218
Caribou	6	5,377
Carmel	5	1,066
Carroll	5	546
Carthage	2	280
Cary	6	420
Casco	8	810
Cashs Corner	8	275
Castine	15	947
Caswell Planta	6	375
Center Lincolnville	14	530
Center Lovell	1	260
Center Montville	14	352
Centraltown	9	1,060
Chain of Ponds	2	250
Charleston	5	796
Charlotte	16	315
Chase Mills	9	200
Chebeaque Island	8	562
Chelsea	10	3,216
Cherryfield	16	1,800
Chester	5	402
Chesterville	2	250
China	10	550
Chisholm	2	806
Clifton	5	284
Clinton	10	1,398
Columbia	16	516
Columbia Falls	16	698

Maine Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Cooper	16	264
Coopers Mills	12	450
Corinna	5	1,102
Corinth	5	240
Cornish	7	1,118
Cornvile	3	460
Costigan	6	235
Crawford	16	206
Crouseville	6	275
Cumberland Center	8	672
Cumberland Mills	8	2,400
Curtis Corner	9	280
Cushing	13	233
Cutler	16	462
D		
Damariscotta	12	1,012
Damariscotta Mills	12	350
Danforth	16	1,380
Davidson	5	202
Dayton	7	560
Deadwater	3	380
Dedham	15	290
Deer Isle	15	897
Denmark	1	380
Dennysville	16	452
Detroit	3	590
Dexter	5	3,540
Dickey	6	250
Dixfield	1	563
Dixmont	5	334
Dorman	16	206
*Dover and Foxcroft	4	1,908
Dover South Mills	4	220
Dresden	12	305
Dresden Mills	12	225
Dryden	2	260
Dry Mills	8	280
Durham	9	587
Dyer Brook	6	250
E		
Eagle Lake	6	762
East Baldwin	8	380
East Benton	10	220
East Blue Hill	15	210
East Boothbay	12	540
Eastbrook	15	246
East Brownfield	1	340
East Corinth	5	589
East Dixfield	1	250
East Eddington	5	620
East Tampden	5	360
East Harpswell	8	240
East Hiram	1	310
East Holden	5	209
East Jackson	14	222
East Lamoine	15	250
East Lebanon	7	250
East Limington	7	262
East Livermore	9	2,641
East Lowell	5	260
East Machias	16	1,637
East Madison	3	560
East Millinocket	5	2,062
Easton	6	320
East Orland	15	450
East Orrington	5	260
East Otisfield	8	220
East Parsonsfield	7	390
East Poland	9	347
Eastport	16	4,961
East Raymond	8	260
East Sangerville	4	856
East Sebago	8	280
East Sullivan	15	425
East Sumner	1	480
East Vassalboro	10	350
East Waterford	1	250
East Wilton	2	430
East Winn	5	236
Eden	15	4,441
Eliot	7	650
*Ellsworth	15	3,549
Ellsworth Falls	15	420
Empire Road	9	347
Enfield	5	389
Etna	5	527
Eustis	2	208
Exeter	5	887
F		
Fairbanks	2	360
Fairfield	3	2,801
Falmouth	8	245
Falmouth Foreside	8	240
Farmingdale	10	850
*Farmington	2	3,210
Farmington Falls	2	430
Fayette	10	299
Five Islands	11	260
Fort Fairfield	6	4,381
Fort Kent	6	3,710
Foxcroft and Dover	4	1,726
Frankfort	14	1,099
Franklin	15	1,406
Freedom	14	370
Freeman	2	307
Freeport	8	965
Frenchville	6	1,660
Friendship	13	1,080
Fryeburg	1	540
Fryeburg Center	1	240
G		
Gardiner	10	5,311
Garland	5	713
Georgetown	11	799
Gilead	1	250
Goodrich	6	250
Goodwins Mills	7	550
Gore	7	230
Gorham	8	2,650
Gouldsboro	15	350
Grand Isle	6	430
Grand Lake Stream	16	262
Gray	8	1,270
Great Works	5	402
Greenbush	5	660
Greene	9	675
Greenville	4	1,420
Greenville Junction	4	330
Greenwood	1	727
Guilford	4	1,508
H		
Hallowell	10	2,864
Hamlin	6	560
Hampden	5	506
Hampden Highlands	5	582
Hancock	15	406
Hanover	1	212
Harmony	3	660
Harrington	16	865
Harrison	8	651
Hartford	1	642
Hartland	3	974
Hastings	1	230
Haynesville	6	380
Haywood	6	408
Hebron	1	460
Hebron Station	1	206
Hermon	5	802
Highisle	13	375
Highland Lake	8	320
Hillman	6	280
Hiram	1	393
Hodgdon	6	1,506
Hollis Center	7	308
Hope	13	360
*Houlton	6	5,845
Howland	5	580
Hudson	5	510
Hulls Cove	15	260
Hurricane Island	13	266
I		
Indian River	16	206
Industry	2	553
Island Falls	6	1,550
Islesboro	14	276
J		
Jackman	3	357
Jackson	14	380
Jay	2	2,987
Jefferson	12	1,155
Jemtland	6	308
Jonesboro	16	624
Jonesport	16	2,124
K		
Katahdin Iron Works	4	308
Keegan	6	780
Kenduskeag	5	423
Kennebunk	7	3,509
Kennebunk Port	7	2,123
Kents Hill	10	250
Kezar Falls	7	608
Kingfield	2	693
Kingman	5	1,075
Kittery	7	3,533
Kittery Depot	7	240
Kittery Point	7	1,062
Knightville	8	666
Knox	14	267
Knox Station	14	250
L		
LaGrange	5	574
Lake View	4	225
Lambert Lake	16	250
Lawrences Mills	10	490
Lebanon	7	1,260
Lee	5	825
Leeds	9	1,066
Levant	5	789
Lewiston	9	26,247
Lexington	3	231
Liberty	14	737
Ligonia	8	250
Limerick	7	806
Limestone	6	1,480
Limington	7	1,086
Lincoln	5	1,167
Lincoln Center	5	360
Lincolnville	14	1,200
Linneus	6	1,260
Lisbon	9	4,116
Lisbon Falls	9	2,206
Litchfield	10	306
Litchfield Corners	10	580
Little Deer Isle	15	262
Little River	9	2,206
Littleton	6	924
Livermore	9	846
Livermore Falls	9	2,200
Longcove	13	360
Lovells	1	691
Lowell	5	460
Lower Grand Isle	6	534
Lubec	16	3,363
Ludlow	6	409
M		
McKinley	15	250
*Machias	16	2,082
Machias Port	16	1,187
Macwahoc	6	216
Madawaska	6	2,060
Madison	3	3,379
Madrid	2	241
Mainstream	3	266
Manchester	10	525
Manset	15	225
Maplegrove	6	306
Mapleton	6	925
Mariner	8	450
Mars Hill	6	1,506
Masardis	6	650
Mattawamkeag	5	527
Mattocks	8	380
Maxime	6	534
Mechanic Falls	9	1,687
Medford	4	282
Medford Center	4	282
Medomac	12	390
Medway	5	508
Mercer	3	490
Messalonskee	10	240
Mexico	1	2,065
Middletown	5	306
Milford	5	838
Millbridge	16	1,963
Mill Creek	5	360
Millinocket	5	3,368
Milltown	16	1,200
Mill Village	2	430
Milo	4	2,556
Milo Junction	4	280
Milton Plantation	1	211
Minot	9	280
Minot Station	9	462
Minturn	15	250
Monarda	6	222
Monmouth	10	1,236
Monroe	14	829
Monson	4	1,237
Monticello	6	1,332
Montville	14	1,068
Moose River	3	360
Morrill	14	453
Moscow	3	366
Mount Chase	5	309
Mount Desert	15	409
Mount Desert Ferry	15	250
Mount Vernon	10	900
Muscongus	12	608
Myrick	5	206
N		
Naples	8	746
New Castle	12	532
Newfield	7	456
New Gloucester	8	1,125
Newhall	8	216
New Harbor	12	360
New Limerick	6	606
Newport	5	1,096
New Portland	3	466
New Sharon	2	1,064
New Sweden	6	507
New Vineyard	2	660
Nobleboro	12	810
Norlands	9	286
Norridgewock	3	1,706
North Amity	6	290
North Anson	3	1,206
North Auburn	9	266
North Bath	11	210
North Belgrade	10	240
North Berwick	7	1,809
North Bradford	5	320
North Bridgton	8	490
North Brooksville	15	290
North Buckfield	1	360
North Carmel	5	230
North Castine	15	340
North Chapleigh	7	466
North Chesterville	2	206
North Cornville	3	220
North Cutler	16	202
North Deer Isle	15	375
North Dexter	5	240
North Dixmont	5	240
Northeast Harbor	15	660
North Edgecomb	12	393
North Fryeburg	1	210
North Gorham	8	250
North Gray	8	262
North Haven	13	655
North Islesboro	14	630
North Jay	2	450
North Limington	7	260
North Monmouth	10	480
North Newburg	5	220
North New Castle	12	250
North New Portland	3	550
North Newry	1	286
North Parsonfield	7	366
North Perry	16	206
Northport	14	545
North Raymond	8	268
North Scarboro	8	306
North Sullivan	15	220
North Vassalboro	10	782
North Waldoboro	12	250
North Waterboro	7	460
North Waterford	1	206
North Wayne	10	206
North Whitefield	2	426
North Windham	8	350
North Woodstock	1	250
North Yarmouth	8	306
Norway	1	5,358
O		
Oakfield	6	720
Oakfield Station	6	250
Oakland	10	2,405
Oaks	8	420
Oceanville	15	250
Ogunquit	7	505
Olamon	5	240
Old Orchard	7	757
Oldtown	5	6,317
Orient	6	244
Orland	15	1,390
Orono	5	3,555
Orrington	5	636
Orrs Island	8	306
Otis	15	239
Oxford	1	473

Maine Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
P		
Palermo	14	512
Palmyra	3	805
Paris	1	3,436
Paris Hill	1	262
Parkman	4	718
Passadumkeag	5	409
Patten	5	1,206
Pejebscot	11	394
Pemaquid	12	375
Pembroke	16	824
Penobscot	15	935
Perham	6	725
Perry	16	570
Peru	1	250
Phair	6	706
Phillips	2	823
Phippsburg	11	1,254
Pine Point	8	350
Pittsfield	3	2,891
Pittston	10	1,105
Pleasantdale	8	850
Pleasant Point	13	225
Plymouth	5	689
Poland	9	560
Popham Beach	11	290
Portage	6	608
Port Clyde	13	405
Porter	1	906
*Portland	8	58,571
Pownal	8	592
Pownal	8	250
Prentiss	5	410
Presqe Isle	6	2,938
Princeton	16	1,027
Prospect	14	340
Prospect Ferry	14	356
Prospect Harbor	15	240
Prouts Neck	8	350
R		
Randolph	10	1,205
Rangeley	2	695
Raymond	8	552
Razorville	13	200
Readfield	10	994
Red Beach	16	600
Richmond	11	2,049
Ridlonville	1	1,066
Ripley	3	450
Riverside	10	299
Riverview	3	244
Robbinston	16	460
Robinsons	6	1,050
*Rockland	13	8,174
Rockport	13	2,314
Rome	10	560
Round Pond	12	450
Roxbury	1	222
Rumford	1	6,777
Rumford Corner	1	311
Rumford Falls	1	5,427
Rumford Point	1	306
S		
Sabattus	9	805
Saco	7	6,583
Saint Agatha	6	365
Saint Albans	3	1.206
Saint David	6	551
Saint Francis	6	461
Saint George	13	250
Saint John Plantation	6	386
Salem	2	218
Sandy Creek	8	275
Sandy Point	14	365
Sanford	7	9,049
Sangerville	4	1,306
Santiago	15	465
Sargentville	15	357
Scarboro	8	350
Seal Harbor	15	308
Searsmount	14	949
Searsport	14	1,509
Sebago	8	576
Sebago Lake	8	250
Sebec	4	585
Sedgewick	15	950
Shapleigh	7	847
Shapleigh Corner	7	380
Shawmut	3	625
Sheepcott	12	350
Sheridan	6	366
Sherman Mills	6	1,100
Sherman Station	5	360
Shiloh	9	662
Shirley Mills	4	248
Sidney	10	1,205
Silvers Mills	5	350
*Skowhegan	3	5,180
Smithfield	3	479
Snows Falls	1	266
Solon	3	1,065
Somerset	3	208
Somerville	12	374
South Acton	7	530
South Atkinson	4	230
South Berwick	7	2,935
South Brewer	5	980
South Bridgton	8	350
South Bristol	12	580
South Brooksville	15	308
South China	10	223
South Corinth	5	262
South Deer Isle	15	450
South Dover	4	206
South Elliot	7	950
South Freeport	8	320
South Gardiner	10	490
South Harpswell	8	250
South Hiram	1	340
South Hope	13	541
South Jefferson	12	260
South Lagrange	5	221
South Levant	5	262
South Liberty	14	310
South Lubec	16	205
South Montville	14	380
South Newburg	5	260
South New Castle	12	750
South Orrington	5	360
*South Paris	1	1,542
South Penobscot	15	200
South Poland	9	750
Southport	12	525
South Portland	8	7,471
South Presque Isle	6	200
South Robbinston	16	320
South Sanford	7	250
South Scurry	15	200
South Thomaston	13	505
South Union	13	236
South Vassalboro	10	566
South Waldoboro	12	208
South Waterford	1	295
South West Harbor	15	850
South Windham	8	1,205
Spaulding	6	725
Springfield	5	509
Springvale	7	2,505
Spruce Head	13	200
Standish	8	1,506
Stark	3	766
Steep Falls	8	466
Stetson	5	618
Steuben	16	752
Stockholm	6	375
Stockton Springs	14	774
Stonington	15	1,648
Stow	1	291
Stratton	2	568
Strickland	9	340
Strong	2	627
Stroudwater	8	565
Sullivan	15	325
Sumner Station	1	426
Sunset	15	368
Surry	15	909
Swans Island	15	808
Swanville	14	689
Sweden	1	282
T		
Temple	2	470
Tenants Harbor	13	2,060
The Falls	15	420
The Forks	3	245
Thomaston	13	2,688
Thorndyke	14	589
Togus	10	2,306
Topsfield	16	375
Topsham	11	1,066
Tremont	15	306
Troy	14	375
Turner	9	1,025
U		
Union	13	806
Unity	14	922
Upper Frenchville	6	1,165
Upper Gloucester	8	305
Upper Madawaska	6	2,056
V		
Van Buren	6	3,065
Vassalboro	10	2,977
Veazie	5	650
Vinal Haven	13	2,358
W		
Waldo	14	566
Waldoboro	12	2,656
Waldo Station	14	468
Wales	9	266
Wallagrass	6	595
Walnut Hill	8	605
Waltham	15	242
Warren	13	1,542
Washburn	6	1,225
Washington	13	1,660
Waterboro	7	792
Waterford	1	201
Waterville	10	11,458
Wayne	10	709
Webbs Mills	8	200
Weeks Mills	10	350
Weld	2	740
Wellington	4	484
Wells	7	1,200
Wesley	16	227
West Athens	3	320
West Baldwin	8	460
West Bath	11	291
West Bethel	1	240
West Boothbay Harbor	12	240
West Bowdoin	11	520
West Bridgton	8	209
Westbrook	8	8,281
West Brooklin	15	240
West Brooksville	15	250
West Buxton	7	861
West Cumberland	8	240
West Denmark	1	202
West Dresden	12	220
West Durham	9	250
West Enfield	5	380
West Falmouth	8	780
West Farmington	2	390
Westfield	6	500
West Franklin	15	500
West Gardiner	10	853
West Gorham	8	320
West Gouldsboro	15	210
West Gray	8	240
West Jonesport	16	617
West Kennebunk	10	700
West Lubec	16	275
West Mills	2	553
West Minot	9	466
West Newfield	7	250
Weston	6	370
West Palmyra	3	204
West Paris	1	760
West Pembroke	16	6,902
West Peru	1	420
West Poland	9	875
Westport	12	451
West Pownal	8	250
West Rockport	13	360
West Scarboro	8	400
West Sidney	10	275
West Sullivan	15	665
West Sumner	1	250
Westville	2	390
West Waldoboro	12	250
Whitefield	12	405
Whiterock	8	275
Whiting	16	393
Whitneyville	16	413
Willard	8	565
Willimantic	4	271
Wilton	2	1,806
Wilton Station	2	200
Windham Center	8	255
Winn	5	708
Winnecook	14	290
Winnegance	11	308
Winslow	10	2,709
Winslow Mills	12	400
Winter Harbor	15	660
Winterport	14	1,566
Winterport Ferry	15	208
Winterville	6	281
Winthrop	10	2,088
Winthrop Center	10	1,509
*Wiscaset	12	1,273
Woodland	16	1,562
Woodland Number One	6	1,066
Woodville	5	560
Woolwich	11	892
Wyman	16	260
Y		
Yarmouth	8	950
Yarmouthville	8	1,108
York Beach	7	380
York Corner	7	500
York Harbor	7	306
York Village	7	1,260

PICTURESQUE RESORTS

Rangeley Lakes, Me.—This group of six lakes, in the western part of the State, is connected by streams passing from one to the other, until an unbroken water route of about 60 miles is formed. Their names are Umbagog, Lower Richardson, Molechunkamunk, Mooselucmaguntic, Cupsuptic and Rangeley. The surrounding scenery is extremely picturesque and grand, and the entire resort presents many attractions for artists, tourists, hunters and fishermen. Indian Rock is a favorite camping ground for sportsmen. Near by is Dixville Notch, from one point of which portions of Canada, Vermont, New Hampshire and Maine may be seen.

Old Orchard Beach, Saco Bay, Me.—Fifteen miles west from Portland, Me., Old Orchard Beach, the summer resort, extends from the Dunstan River, on the north, to the Saco River, on the south, a distance of six miles, with a solid sand beach. In Saco Bay, in that vicinity, are the following islands, which add to the picturesqueness of the scenery: Stratten's Island, about half a mile long and containing a few houses, but no trees; close by is Bluff Island, about 450 feet long, with a cluster of trees near the center; Wood Island, off the mouth of the Saco River, is nearly half a mile long, covered with trees, and contains a lighthouse and fog-bell; Stage Island is nearly one-fourth mile long, and has no trees, but a graystone monument 40 feet high; Basket Island is about 450 feet in diameter; Ram Island is oval-shaped and about 450 feet long; Eagle Island is about 450 feet across, with foliage, but no trees.

MAINE

A New England Region of Rapid Running Streams and the Wild in Nature

Land seekers, who contemplate leaving cities for the purpose of going upon farm land, should not forget that many of the most prosperous men in mercantile life, many distinguished in the professions and in all lines of work, throughout the United States, had the advantage of farm life among the rugged hills of New England.

THE BEST OF FOODS

Not only is this a grand region to come from, but it is a superior part of the world in which to rear children.

In everything relating to food here is the best. Suppose our home to be in Maine. In the clear waters of the **running brooks** we will get the **finest** spreckled trout; here is the **sweetest honey** and the most delicious **maple sugar.** The cattle that feed on the tame grass and drink the fresh waters from the running streams, yield the **best milk and cream;** on the dry sidehills grow the **mealiest potatoes.** The live stock of the country are protected from storms, the hens live on the best carefully prepared foods and hence give us eggs of **exquisite flavor.** And so throughout all the range of foods in New England—people there live on only the best.

It is a splendid region in which to rear a boy on a farm by a family compelled to get a living from land. Compared with the over abundant yield of land in the prolific West, the smaller crop which must be carefully harvested and every straw saved, compels frugality, prudence and economy. The never ceasing labor and necessity in planting, cultivating and harvesting, compels those habits of industry which tend to temperance and success, wherever the New England boy is placed in after life.

The family, especially before emigrating far away, should look up the farms out of which the young men have gone to the West. Possibly the farm houses are **entirely deserted** and the land turned over to stock raising, or perhaps the young men of the family gone, the old folks who yet remain will be glad to make an arrangement highly advantageous to any new family who will take the farm.

In the tour of inspection among New England farms it may be profitable to visit the State of Maine. Give a week—a month will be better—in looking up some of the old farms. On some of the lands that can be bought cheaply and upon which a delightful home may be made.

BACK TO THE NEW ENGLAND FARM

There exists a strong inclination with many people in the West to go back to the New England hills, at least for summer residence. The picturesque scenery, **rapid running** streams, beautiful **evergreens, lakes** and the **wild in Nature** all appeal to them.

There are hundreds of these old homes where houses can be painted, the trees trimmed and the lawns so put in order as to make the property highly salable, and all this mostly the result of exercising taste in putting the place in order.

But if old and run-down estate are not readily found select sequestered nooks, build cottages, fit the grounds up tastefully and sell the property to those who are hunting for just such quiet, romantic places among the mountains and hills of the "Down East."

People of wealth in the central cities who are seeking these rural spots do not ask for large houses and elaborate furniture. They want somewhere from **five to twenty** acres of land, a group of two, three or four cottages, with an abundance of **piazza room.** They desire a running brook close by, trees, mountains and hills to look up to, shrubbery, **tangled vines, rocks** and ferns. They want the rustic. Accustomed to the highly polished, the beautifully finished in architecture and landscape gardening, they **yearn for the wild** and untrained.

Look over our list of towns, write to the Agricultural Department of the State University in Maine. Tell them what you want and **enclose** an addressed prepaid return envelope to yourself. Get into touch with **real estate dealers,** they know about old homes in that State.

Go and see for yourself and, if opportunity offers, dress up old properties or make them new for those who need and want summer cottages and rural homes.

CONDENSED IMPORTANT FACTS RELATING TO MAINE

Altitude: Highest in Maine, Mt. Katahdin, in Piscataquis county; near the center of the State, 5,200 feet.

Climate: The climate is severe in winter and the air dry and pure. Average January temperature, 22 above; summer heat, 62 degrees. Average annual temperature at Portland, 48 degrees. With cool summers, hunting and excellent fishing, Maine is a delightful summer resort State. The winters are long and snows deep. The soil is so well drained malaria is almost unknown. Extremes of heat and cold at Portland 97 and 17 below. Average rainfall, 45.2 inches.

Dimensions: Area, 33,040 square miles; extreme length, 235 miles; extreme width, 205 miles. Primeval forest covers three-fourths of the State. Coast line, 278 miles; including indentations, 2,486 miles.

History: This coast believed to have been visited by the Northmen in 990; visited by Cabot, 1498; by the French in 1524; in 1525 by the Spaniards. Pemaquid, Lincoln county, settled in 1625. Indian raids were common and but little improvement made until after the Revolutionary War. Admitted to the Union, 1820. Maine liquor law prohibiting manufacture and sale of intoxicating liquors passed in 1851; permanently in 1858.

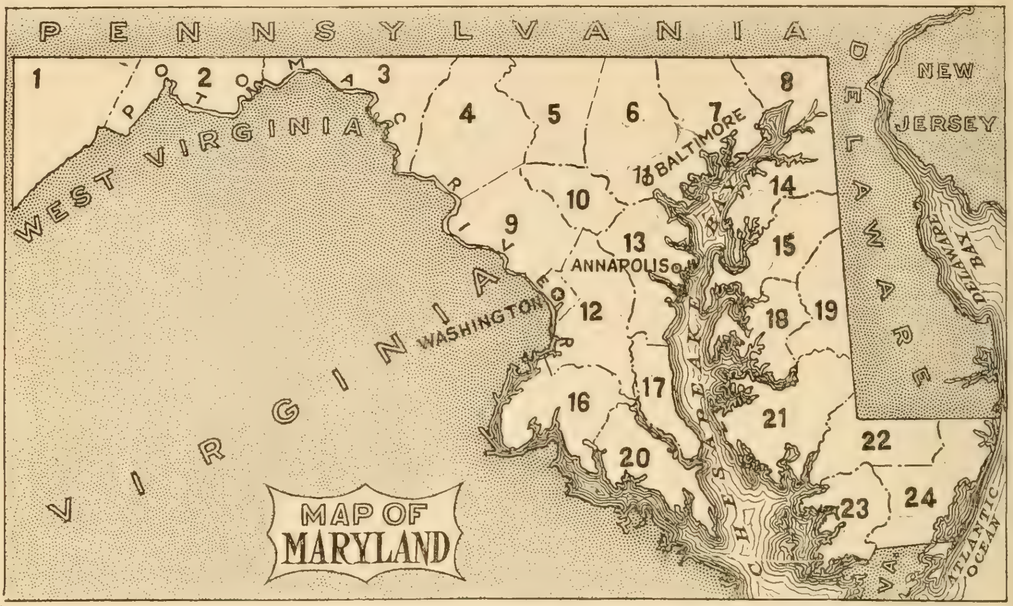
Lakes in Maine.

Many Picturesque Localities with Lakes May Be Found in This State.

	Miles Long.	Miles Wide.
Alligator Lake, Hancock Co.	3¼	1¾
Barrows Lake, Washington Co.	2	1
Baskahagan Lake, Washington Co.	3½	3
Beaver Dam Lake, Washington Co.	2	1
Big Lake, Washington Co.	12	2
Big Wilson Pond, Piscataquis Co.	5	3½
Boyden's Lake, Washington Co.	3	1½
Caribou Lake, Piscataquis Co.	5	3
Cathanes Lake, Washington Co.	4	2½
Centre Pond, Piscataquis Co.	2	1
Chain Lakes (3), Washington Co.	8	1½
Chain Lakes (7), Franklin Co.	40	3 to 5
Chamberlain Lake, Piscataquis Co.	10	5
Chesuncook Lake, Piscataquis Co.	18	3
Chimquassabamtook Lake, Piscat. Co.	6	3
Clifford's Lake, Washington Co.	3	2
Cold Stream Pond, Penobscot Co.	4¼	3
Cranberry Lakes (3), Washington Co.	4	1
Crawford Lake, Washington Co.	5	1
Cupsuptic Lake, Franklin Co.	4	1½
Dexter Pond, Penobscot Co.	3	½
Eagle Lake, Hancock Co.	2	¾
Eagle Lakes, Aroostook Co., each	14	2½
Long Lake, Cumberland Co.	10	1
Long Pond, Piscataquis Co.	6	1
Long Pond, Washington Co.	3	¾
Loon Lake, Piscataquis Co.	3	1
Love Lake, Washington Co.	2½	1
Machias Lake, Washington Co.	3	1
Madenteaunt Lake, Penobscot Co.	1	½
Mapaug Lakes, Washington Co.	6	1
Mattaceunt Lake, Penobscot Co.	3	1
Mattagamon Lake, Penobscot Co.	3½	1½
Mattamiscontis Lake, Penobscot Co.	2	1
Mattawamkeag Lake, Aroostook Co.	8	4
Medybemps Lake, Washington Co.	8	2
Meluncas Lake, Aroostook Co.	3	1¼
Millinokett Lakes, Penobscot Co.	6	4½
Molasses Pond, Hancock Co.	2½	2
Molechunckamunk Lake, Oxford Co.	6	3
Monson Pond, Piscataquis Co.	2	1
Moosehead Lake, Piscataquis Co.	40	20
Mooslucmaguntic Lake, Oxford Co.	12	4
Mud Pond, Piscataquis Co.	2	½
Mud Lake, Piscataquis Co.	1	½
Musquash Lake, Washington Co.	3	1
Portage Lake, Aroostook Co.	5	2½
Pushaw Lake, Penobscot Co.	7	3
Ragged Lake, Piscataquis Co.	3	1
Rangely Lakes, Franklin Co.	9	3
Reed's Pond, Hancock Co.	6¼	1⅛
Richardson Lakes, Oxford Co.	17	3
Ripogenus Lake, Piscataquis Co.	3	1
Roach Lake, Piscataquis Co.	7	2
Rocky Lake, Washington Co.	2½	1
Rocky Pond, Hancock Co.	1½	1
St. Croix Lake, Aroostook Co.	2	1
Schoodic Lakes, Piscataquis Co.	8	3
Schroodic Lake, Washington Co.	9	½
Sebago Lake, Cumberland Co.	13	11
Sebec Lake, Piscataquis Co.	12	5
Seboosis Lake, Penobscot Co.	7	1
Scraggley Lake, Penobscot Co.	3½	1
Shining Lake, Washington Co.	2	2
Shin Ponds, Penobscot Co.	3½	1
Sisladobsis Lake, Penobscot Co.	8½	1½
Spider Lake, Piscataquis Co.	2	1½
Squawpan Lake, Aroostook Co.	10	3

STATE AND THE 24 COUNTIES OF MARYLAND

With Their Boundaries



LOCATION AND POPULATION OF MARYLAND COUNTIES.

Loca.	*County*	*Pop.*
1	Garrett	20,105
2	Allegheny	62,411
3	Washington	48,671
4	Frederick	52,673
5	Carroll	33,934
6	Baltimore	122,399
7	Harford	27,965
8	Cecil	24,759
9	Montgomery	32,089
10	Howard	16,106
11	Baltimore City	558,485
12	Prince Georges	36,147
13	Anne Arundel	39,553
14	Kent	16,957
15	Queen Anne	16,839
16	Charles	16,386
17	Calvert	10,325
18	Talbot	19,620
19	Caroline	19,216
20	St. Marys	17,030
21	Dorchester	29,669
22	Wicomico	26,815
23	Somerset	26,455
24	Worcester	21,811
	Total	1,295,846

Maryland Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
Aberdeen	7	616
Abingdon	7	208
Accident	1	290
Adamstown	4	200
Alberton	10	562
Allen	22	360
Andrews	21	206
Annapolis (Capital)	13	8,609
Aquasco	12	350
Arlington	6	1,066
Ashland	6	450
B		
Baldwin	6	326
*Baltimore	11	558,485
Barton	2	1,208
Bayview	8	281
Bel Air	7	1,065
Berlin	24	1,317
Berwyn	12	1,066
Bethesda	9	250
Betterton	14	308
Big Gunpowder	6	208
Bishop	24	226
Bishopville	24	262
Bivalve	22	560
Bladensburg	12	460
Bloomington	1	372
Bond	1	206
Boonsboro	3	759
Bowie	12	496
Bradshaw	6	536
Branchville	12	206
Brookeville	9	835
Brooklandville	6	390
Brooklyn	13	1,200
Bruceville Station	5	266
Brunswick	4	3,271
Buckeystown	4	415
Burkittsville	4	228
C		
Calvert	8	200
*Cambridge	21	6,407
Camp Parole	13	306
Cardiff	7	580
Carlos	2	590
Carlos Junction	2	509
Carroll	6	2,062
Catonsville	6	4,066
Cecilton	8	518
*Centerville	15	1,435
Charlestown	8	274
Chase	6	396
Cherry Hill	8	350
Chesapeake City	8	1,016
Chester	15	350
*Chestertown	14	2,735
Cherry Chase	9	250
Chillum	12	290
Choptank	19	225
Church Creek	21	396
Church Hill	15	306
Churchton	13	596
Churchville	7	208
Clear Spring	3	521
Cockeysville	6	1,509
College Park	12	309
Conowingo	12	308
Corriganville	2	290
Crellin	1	290
Crisfield	23	3,468
Crumpton	15	228
*Cumberland	2	21,836
D		
Dames Quarter	23	1,066
Darlington	7	205
Deer Park	1	988
Delmar	22	959
*Denton	19	1,481
Dickerson	9	225
E		
East New Market	21	280
*Easton	18	3,083
Eastport	13	1,560
Eccleston	6	350
Eldorado	21	290
Elk Mills	8	362
Elkridge	10	1,096
Elkton	8	2,487
Ellerslie	2	606
*Ellicot City	10	1,151
Elliot	21	460
Emmetsburg	4	1,054
Ewell	23	725
F		
Fairmount	23	320
Falkner	16	380
Federalsburg	19	1,050
Fishing Creek	21	650
Flint Stone	2	315
Fords Store	15	1,200
Forest Hill	7	350
Forestville	12	290
Fork	6	309
Fort Washington	12	405
Four Locks	3	750
Franklin Mines	2	209
*Frederick	4	10,411
Friendsville	1	466
Fruitland	22	350
Frostburg	2	6,028

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Maryland Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Fullerton	6	506
Funkstown	3	568
G		
Gaithersburg	9	625
Galena	14	262
Galloways	13	250
Gamber	5	225
Gardenville	6	668
Girdletree	24	325
Glencoe	6	290
Glen Echo	9	203
Genelg	10	265
Glyndon	6	311
Golden Ring	6	392
Goldsboro	19	231
Govanstown	6	1,590
Graceham	4	269
Grange	6	206
Granite	6	678
Grantsville	1	248
Greensboro	19	609
Guilford	10	590
H		
Habnab	23	206
*Hagerstown	3	16,507
Halethorp	6	390
Hamilton Station	6	1,506
Hampstead	5	555
Hancock	3	893
Harmons	13	390
Harrisonville	6	462
Havre de Grace	7	4,212
Hereford	6	380
Hillsdale	6	804
Hillsboro	19	209
Hollywood	20	250
Homestead	6	890
Hoopersville	21	369
Howardsville	6	390
Hughesville	16	250
Hurlock	21	516
Hurry	20	360
Hursley	24	252
Hyattsville	12	1,917
I		
Ingleside	15	290
J		
James	21	250
Jefferson	4	350
Jesterville	22	359
K		
Keedysville	3	367
Keep Tryst	3	360
Kennedyville	14	290
Kensington	9	689
Keymar	5	209
Kingsville	6	210
Kitzmiller	1	865
Knoxville	4	350
L		
Lakeland	12	290
Lansdowne	6	690

Towns	Loca.	Pop.
*La Plata	16	299
Lauraville	6	1,099
Laurel	12	2,415
Leitersburg	3	350
*Leonardtown	20	525
Lewiston	4	225
Libertytown	4	589
Lime Kiln	4	1,062
Lindnersville	2	502
Loch Lynn Heights	1	216
Lonaconing	2	1,553
Long Green	6	260
Loreley	6	220
Lothair	16	360
Luke	2	505
Lutherville	6	663
M		
McCoys	3	750
McDonough	6	290
Madison	21	350
Manchester	5	523
Merdela Springs	22	396
Marion Station	23	275
Marydel	19	366
Maugansville	3	220
Mayo	13	290
Meadows	12	309
Mechanicsville	20	562
Millington	14	399
Monie	23	290
Monkton	6	366
Motters	4	290
Mountain Lake Park	1	335
Mount Airy	5	622
Mount Ranier	12	1,242
Mount Savage	2	3,590
Mount Savage Junction	2	200
Mount Vernon	11	598
Mount Washington	6	1,590
Mount Winans	6	1,509
Myersville	4	280
N		
Nanticoke	22	360
Neavitt	18	309
Newark	24	290
New Market	4	320
New Windsor	5	446
North Beach	17	262
Northbranch	6	290
North East	8	974
O		
*Oakland	1	1,366
Oakland	5	490
Ocean	2	1,306
Ocean City	24	476
Oella	6	516
Orangeville	6	1,506
Oriole	23	406
Owings Mills	6	212
Oxford	18	1,191

Towns	Loca.	Pop.
P		
Parkton	6	360
Parkville	6	209
Parole	13	390
Parsonsburg	22	260
Patapsco	5	250
Pekin	2	206
Perry Hall	6	250
Perryman	7	271
Perryville	8	635
Petersville	4	290
Pikesville	6	1,203
Pisgah	16	225
Pittsville	22	366
Pocomoke City	24	2,369
Point of Rocks	4	364
Pomonkey	16	250
Pondsville	3	280
Port Deposit	8	1,394
Powhatan	6	560
Preston	19	288
*Princess Anne	23	1,006
Principio Furnace	8	506
Q		
Quantico	22	290
Queen Anne	15	209
Queenstown	15	279
R		
Raspeburg	6	509
Reisterstown	6	1,066
Relay	6	2,066
Rhodes Point	23	250
Rider	19	496
Ridgely	19	943
Ringgold	3	390
Rising Sun	8	416
Riverdale	12	1,099
Rock Hall	14	781
Rock Point	16	306
*Rockville	9	1,181
Rosedale	6	300
Rossville	6	606
Ruxton	6	350
S		
Sabillasville	4	206
Saint Inigoes	20	390
Saint Michaels	18	1,517
*Salisbury	22	6,690
Sandy Hook	3	309
Savage	10	1,099
Secretary	21	409
Security	3	366
Selbysport	1	220
Sharpsburg	3	960
Sharptown	22	722
Sherwood	6	490
Smithsburg	3	481
*Snow Hill	24	1,844
Solomons	17	313
South Baltimore	13	2,506
Sparrows Point	6	4,066
State Sanatorium	4	250

Towns	Loca.	Pop.
Stevensville	15	350
Still Pond	14	406
Stockton	24	252
Sudbrook Park	6	250
Sudlersville	15	247
Sugarland	9	560
Suitland	12	206
Sykesville	5	565
T		
Takoma	9	1,156
Taneytown	5	824
Taylor	7	280
Taylorsville	5	204
Texas	6	1,060
Thurmont	4	903
Tilghman	18	1,209
Timonium	6	262
Toddville	21	269
Tompkinsville	16	206
*Towsom	6	3,508
Trappe	18	273
Tunis Mills	18	200
Tyaskin	22	290
U		
Union Bridge	5	804
Union Mills	5	250
Uniontown	5	309
Unionville	4	250
Upper Fairmount	23	590
Upper Falls	6	475
*Upper Marlboro	12	361
Urbana	4	309
V		
Vale Summit	2	366
Vienna	21	332
W		
Walkersville	4	532
Wallman	1	226
Walsey	15	1,220
Warren	6	678
Warwick	8	287
Waverly	6	2,099
Wenona	23	290
Western Port	2	2,702
*Westminster	5	3,295
Westport	6	1,060
Wetipquin	22	306
Whaleysville	24	325
Whiteford	7	200
White Hall	6	522
White Marsh	6	390
Willards	22	209
Williamsport	3	1,571
Wingate	24	250
Wingate	24	250
Winthrop	16	208
Woodberry	11	13,062
Woodbrook	6	390
Woodlawn	8	250
Woodsboro	4	690
Woodstock	10	208
Wynne	20	206

DISTRICT OF COLUMBIA

A 64 Square Mile Area, Named in Honor of Columbus, Located in Maryland, on the Banks of the Potomac River.

District of Columbia Cities and Villages with 1910 Populatoins

Towns	Pop.	Towns	Pop.	Towns	Pop.	Towns	Pop.
Anacostia	2,158	Brookland	1,500	Kenilworth	200	Tennallytown	964
Benning	630	Congress Heights	2,260	Langdon	560	Uniontown	2,158
Brightwood	246	Good Hope	2,186	Takoma Park	1,250	Washington	331,069

The District of Columbia is seen on the left side of the map of Maryland near and to the left of the number 12. The District is **noteworthy** principally as being the **location** whereon stands the **United States Government** buildings at Washington.

Washington, D. C. The District of Columbia, the Federal Territory of the Nation, originally contained 100 square miles, but part of the grounds were afterward surrendered to Virginia; its present size is **64 square miles.** Washington City is **4½ miles long by 3¾ miles** at its greatest breadth. Its location is on the eastern bank of the Potomac River, 16½ miles from its mouth, and 184½ miles from the sea. The transfer of the government from Philadelphia to Washington was made in October, 1800. The officials then numbered only a few persons. The great city was a mere hamlet, and most of its houses were small huts. But it soon began to increase in population at the rate of 800 souls a year. August 24, 1814, **the British invaded the capital,** burned all the government buildings and destroyed a large number of the public records, inflicting a loss estimated at $1,000,000. During Monroe's administration the city took upon it a new growth, and many important improvements were made. The **reconstruction of the Capitol** was begun in 1815, and finished in 1827. The total cost of the Capitol—new and old—was nearly $13,000,000. The **Capitol** grounds contain 43 acres.

MARYLAND

An Oyster and Fish Center. Warm, Sandy Soil, Favorable for Vegetable and Fruit Growing. Near Markets.

Should the reader enquire as to what the land seeker could find to do for himself and family in the State of Maryland, he may be referred to statistics for a reply. Investigation will show that there is a very dense population of people here, and these people all have to be fed.

In a study of climate it is found that the average annual temperature for the State is from 54 to 64 degrees, and that the mercury seldom falls below zero. January weather average 34 above at Baltimore and July stands at 78. The annual rainfall is 43.8 inches.

A SUPERIOR REGION FOR PEACHES.

The soil in the eastern part of the state is a sandy loam, easily made highly productive by fertilization, and in this portion of the state peaches grow in great abundance. The same is **true of all garden products.** In the valleys of the central and northern parts of the state the soil is exceedingly fertile, producing large crops of tobacco, wheat and corn. Other staples are hops, flax, maple sugar, honey, wine and sorghum molasses.

From the recent annual report of the Department of Agriculture it is seen that in Maryland the yield of oats was very great, and the same of wheat and corn.

GREAT ADVANTAGE IN CHEAP TRANSPORTATION.

And so, through all the list of agricultural productions, the agriculturist finds soil and climate ready to assist in the production of any cereal, vegetable or fruit adapted to the climate. To this is added **superior facilities** for getting to the markets. The Chesapeake and Ohio Canal, constructed at a **cost of $11,375,000,** runs by the side of the Potomac river westward, from Georgetown and Washington, to Cumberland, in Allegany County, a distance of **184½ miles.** This canal, with its 74 locks, a width of surface of **52 to 60** feet and a depth of **6 feet,** is in readiness to carry all the various productions of the extreme western part of Maryland to the Potomac River at a very cheap rate, while the Potomac and Patuxent rivers, assisted by the Chesapeake Bay, **easily carry** all the production of Central Maryland **out** to the ocean, whence they go to New York and its **immense market,** two hundred miles away, in a few hours.

OYSTER, FISH-CANNING, FRUIT AND VEGETABLES.

The soil, the climate and the markets are right here in Maryland if the land seeker wants to engage in agriculture. But possibly he prefers the **fishing business.** If so, here is the oyster industry on Chesapeake Bay and adjoining waters, giving employment to over 32,000 persons. In this enterprise there are over **$7,000,000** invested, the annual oyster yield being **10,000,000 bushels.**

If the applicant for work dislikes the water, he can turn to one of the **500 canning** establishments, to one of the **800 tobacco** factories, or any one of the **8,000 factories** in which are employed over 94,000 workmen.

GENERAL MANUFACTURING GOING FORWARD.

If the seeker for employment **has a trade** he has simply to look over the general **list of industries** going forward in Maryland.

The Coal Area in this state is 550 square miles, and from the mines in this territory there were taken out in one of the recent years, 6,312,706 tons, worth $1.30 per ton at the mine.

The list of general manufacturing includes flour, fertilizers, cotton goods, foundry and machine shop products, malt liquors, planing mill products, chewing and smoking tobacco, iron and steel, distilled liquors, furniture, patent medicines, brass goods, ships, confectionery, boots and shoes, and brick and tile.

CONDENSED IMPORTANT FACTS RELATING TO MARYLAND.

Altitude.—Highest, Great Backbone Mountain, in Garrett County, 3,400 feet high.

Climate.—Annual average January temperature at Baltimore, 34 above; July, 78. Extremes, 104 and 7 below. Average annual rainfall, 43.8 inches.

Dimensions.—Extreme length of State, north and south, 120 miles; extreme width, east and west, 200 miles.

History.—Charter issued to Lord Baltimore in 1632. First permanent settlement made at St. Marys City, St. Mary County, 1634. Annapolis founded by Puritan refugees, 1649. Baltimore settled 1730. Admitted to the Union 1788. One of the 13 original States.

Legislature.—First governor of the State, John E. Howard, 1789.

Agricultural and Mechanical College, at College Park, Prince George County.

ONLY TWO MONTHS OF WINTER.

The State of Maryland glories in an exceptionally fine, healthful climate, its mildness being due chiefly to the vicinity of the Atlantic Ocean and the Gulf Stream. The winter lasts only two months, January and February. Spring is short and pleasant, and is followed by a long summer, with warm days and cool nights. The heat of the summer is moderated by the constant cool breeze from the Atlantic.

FARM WORK ALL YEAR ROUND.

No fear need be felt of blighting frosts, and the farm work can proceed almost all the year round.

In Maryland suitable soil, if properly cultivated, will produce 40 bushels of wheat to the acre.

Under highly improved cultivation, the yield of corn is 80 bushels per acre.

Land properly cultivated will yield 4,000 quarts of strawberries to an acre.

TOMATOES THE GREAT RELIABLE CROP.

The tomato crop is also very profitable. The young plants are set out in the spring; many do this with a machine, but two persons can easily plant seven acres in a day by hand. The plants should be placed the same distance apart as in the case of corn, and cultivated in the same manner. The canning factories pay on an average $8.00 per ton for tomatoes, and an acre will produce from 6 to 18 tons, according to the quality of the soil.

On a farm of from 40 to 60 acres a settler can, by industry and economy, live comfortably and attain to easy circumstances, if he and his family cultivate their own land. He can dispose of his products with little expense, as railroad and steamboat lines run in all directions, and freight rates are low. A farmer who lives along the water can have his own sailboat and take his products to market himself.

ANNAPOLIS, MD.

Our map of Maryland shows the location of one prominent well known city, namely, **Annapolis.**

ANNAPOLIS, MD. This city was formerly noted as a seat of wealth, refinement and extensive trade.

The naval academy was established in 1845 by the Hon. George Bancroft, Secretary of the Navy, the regulations requiring that the students each remain four years, under strict discipline and instruction in all the branches of the naval profession.

The town was settled in 1640 by Puritan refugees from Virginia and was first called Providence. The next year a commission, appointed by Lord Baltimore, organized the county and named it Anne Arundel Town, in honor of Lady Baltimore. In 1694 the town was regularly laid out and called Annapolis after Queen Anne who gave it some valuable presents. At the close of the revolution Maryland offered to cede Annapolis to the general government as the federal capital. During negotiations for a permanent capital Congress assembled here and at this session Washington surrendered his commission as commander-in-chief December 23, 1783.

Opportunities in Agriculture and Varied Enterprises

Prices of Small Farms in Maryland

The following list of advertisements describing land in the various parts of Maryland will give a fairly accurate idea as to the value placed upon land in that state by owners:

POSTOFFICE AND STORE.

30 acres **$4500**

On this property there is a store 32x45, carrying a stock of $2,500; postoffice in store; **8-room, 2-story house,** nearly new; stable 32x38, built 5 years ago. **Two tenant houses,** one four-room, the other three. Advanced age of owner forces sale. He has made money here, and you can do the same. Only 120 miles from Baltimore, 6 hours by boat. Eighteen acres in fertile fields which cut 2½ tons hay per acre; 8 acres in wheat, abundance of fruit, 5 acres in strawberries. One-half cash, and easy terms. Princess Anne, Md.

HOME IN GOOD REPAIR.

16 3-8 acres **$1300**

Twenty minutes' drive from Princess Anne; 13 acres is garden land, balance wood land; red clay, and sand mixed clay subsoil; a lot of fine fruit trees of different varieties; strawberries, etc. **Two-story house of 5 rooms,** 2 porches; barn and stables for the farm; a nice little home and in good repair; a fine place to raise poultry. If farm is not large enough, there is land close by that can be bought very low. Owner has another farm, reason for selling. Only $1,300; $1,000 cash, reasonable time on balance. Princess Anne, Md.

FARM WITH ALL CONVENIENCES.

73 acres **$1000**

Located 6 miles from Princess Anne; 55 acres tillable, balance wood land; in good neighborhood; schools and churches close by; a **2-story dwelling of 9 rooms** and hall; stable and outbuildings; plenty of fruit. Advanced age of owner cause of sale. $700 down; time on balance. Princess Anne, Md.

FARM CLOSE TO CHURCH AND SCHOOL.

175 acres **$1300**

Twenty-two acres cultivated, balance in young timber, pine, oak and gum; 6 miles to R. R. station; good neighborhood; close to church and school; **dwelling of 8 rooms,** 3 porches, painted; pump house, corn house, new with loft above; 2 small barns; grapes, apples, peaches; also a 5-room tenant house. One-half cash and easy terms. Princess Anne, Md.

IN AN EXCELLENT NEIGHBORHOOD.

69 acres **$2500**

Water front for 80 rods; 5 miles from county seat; 45 acres under cultivation, balance in woodland and pasture; red clay soil; fruit trees of all kinds; splendid land for all farm crops; 13 acres of wheat, a few acres of winter oats, all looking fine. **Two-story, 4-room house;** barn 18x28, poultry house, corn crib, etc. A lot of wealthy farmers all around in this section; one of the best neighborhoods in Maryland. One-half cash and easy terms. Princess Anne, Md.

FARM WITH IMPROVEMENTS $10 AN ACRE.

100 acres **$1000**

Located 5 miles from county seat on main county road, in good neighborhood. **Two-story house of 5 rooms,** and some outbuildings; 40 acres cleared, balance in woodland. Terms cash. Orchard set out. Princess Anne, Md.

LARGE IMPROVED FARM AT $25 AN ACRE.

200 acres **$5000**

There are 5 acres of strawberries in fine condition; abundance wood and timber; owner has refused $1,500 for the saw timber; it is estimated to be worth $2,500; **8-room, 2-story house;** fine shade; convenient stable, poultry house, tenant house, etc., in good order; advanced age cause of sale; only 1½ miles out from R. R. village, on main road four miles from county seat. $3,000 down and easy terms. Princess Anne.

These properties, offered for sale in Maryland, are samples of many homes and farms for sale in Eastern States. In a majority of cases the properties are in good order but the younger members of the household being gone, the old people, or those in charge of the estate, are willing to sell at a sacrifice.

Great numbers of people in the western and middle states, knowing the value and advantages of the old homes, are emigrating into the eastern states. Write to the Secretary of State for lists of real estate agents.

ADVANCED AGE OF OWNER CAUSE OF SELLING.

157 acres **$4500**

On main road between two large villages, only 6 miles from Pocomoke City; 120 acres in cleared fields; balance wood and timber; 100 apple trees just coming into bearing; 4 acres in strawberries; 1,700 bushels of corn grown last year without fertilizer; **7-room house;** barn 30x40, stable for horses. Buildings are very good and are insured for $1,500. Stock and tools at low price. Advanced age of owner cause of sale. One-half cash; balance easy terms. Princess Anne, Md.

POSTOFFICE NEXT DOOR.

12 acres **$1200**

Located 9 miles from Princess Anne, in a little village. A **dwelling of 6 rooms,** hall and porch, painted; carriage house, stable and outbuildings; school and churches close; postoffice next door; country thickly settled; 60 acres of oyster ground can go with the farm; plenty of fruit. $1,000 cash; balance on time. Princess Anne.

THRIVING VILLAGE AND NEAR SCHOOLS.

100 acres **$1600**

Seven miles from county seat, on a fine level road; close to good, thriving little village; good school and churches; 60 acres cleared, balance in wood and timber. Soil is red clay and a good quality; raises fine crops. The dwelling was burned down; some small buildings are left; in a fine neighborhood; some northern neighbors close by; ½ mile to river, with right of way. $1,000 cash, time on balance. Princess Anne, Md.

OWNER HAS NO USE FOR FARM.

28 acres **$1100**

A pleasant little home in a good neighborhood, close to churches and school; 3 stores close by; 22 acres of good tillable land; a carload of lime used on the farm last year. A **2-story, 4-room house** and 2 porches; new barn, 16x32; 4 stalls, carriage house, wagon shed, corn crib, poultry house; a fine place for poultry; 2½ miles from R. R. station; mail delivered; 7 miles from Princess Anne on a nice level road. $700 down, time on balance. Owner has a store and has no use for the farm. Princess Anne, Md.

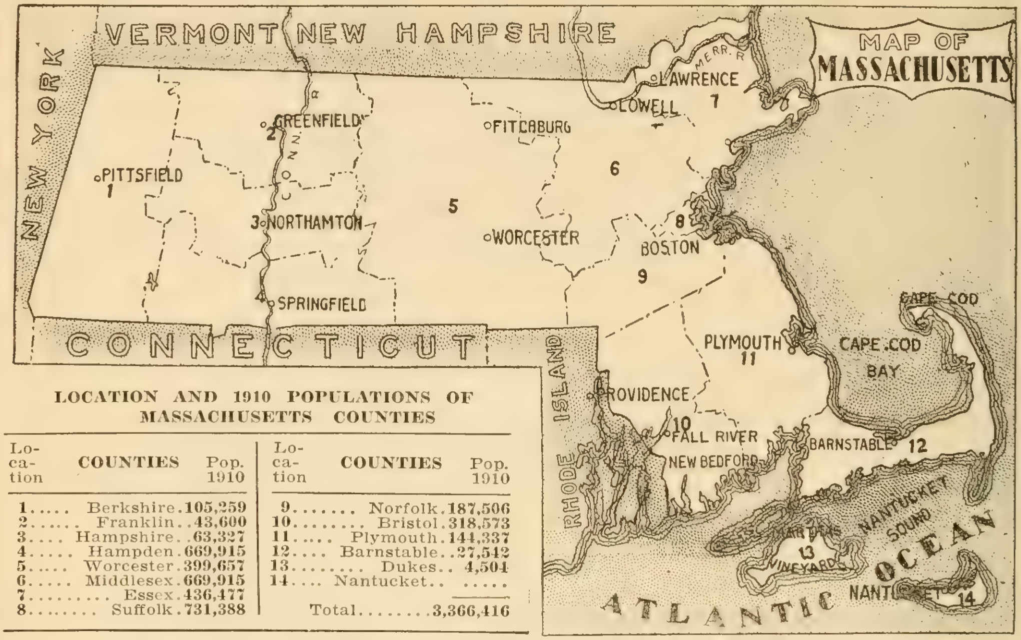
YOUNG ORCHARD—DIFFERENT KINDS OF FRUIT.

116 acres **$1500**

Located 6 miles from Princess Anne, on county road; 1½ miles to store; 75 acres cleared, balance in wood land; **a 5-room dwelling,** and all necessary buildings for the farm. A young orchard of different kinds of fruit; fine shade; mail delivered, etc. $1,000 cash; balance to suit the buyer. Princess Anne, Md.

STATE AND THE 14 COUNTIES OF MASSACHUSETTS

With Their Boundaries



LOCATION AND 1910 POPULATIONS OF MASSACHUSETTS COUNTIES

Location	COUNTIES	Pop. 1910	Location	COUNTIES	Pop. 1910
1	Berkshire	105,259	9	Norfolk	187,506
2	Franklin	43,600	10	Bristol	318,573
3	Hampshire	63,327	11	Plymouth	144,337
4	Hampden	669,915	12	Barnstable	27,542
5	Worcester	399,657	13	Dukes	4,504
6	Middlesex	669,915	14	Nantucket	.....
7	Essex	436,477			
8	Suffolk	731,388		Total	3,366,416

Massachusetts Cities and Villages with 1910 Populations

Loca.	*County*	*Pop.*
A		
Abington	11	5,455
Acton	6	239
Acton	6	260
Acushnet	10	1,063
Adams	1	13,026
Adamsdale	10	206
Agawam	4	3,501
Alford	1	275
Allerton	11	360
Amesbury	7	9,894
Amherst	3	5,112
Andover	7	7,301
Annisquam	7	506
Arlington	6	11,187
Arlington Hgts	6	1,908
Ashburnham	5	801
Ashby	6	865
Ashfield	2	593
Ashland	6	1,597
Assinippi	11	362
Assonet	10	1,194
Athol	5	8,536
Attleboro	10	16,215
Attleboro Falls	10	2,062
Auburn	5	2,006
Auburndale	6	2,163
Avon	9	1,901
Ayer	6	2,797
B		
Baldwinsville	5	1,994
Ballard Vale	7	532
Bancroft	3	232
*Barnstable	12	4,676
Barre	5	2,957
Bay State	3	447
Bay View	7	206
Becket	1	784
Bedford	6	1,158
Belchertown	3	2,088
Bellingham	9	579
Belmont	6	5,542
Berlin	5	706
Bernardston	2	769
Beverly	7	18,650
Beverly Farms	7	1,066
Billerica	6	2,789
Blackinton	1	872
Blackstone	5	5,648
Blandford	4	553
Bolton	5	762
Bondsville	4	1,601
Boston (capital)	8	670,585
Bourne	12	450
Boxford	7	469
Bradstreet	3	240
Braintree	9	8,066
Brant Rock	11	336
Brewster	12	360
Bridgewater	11	7,688
Briggsville	1	404
Brimfield	4	731
Brockton	11	56,878
Brookfield	5	1,658
Brookline	9	27,792
Brookville	9	209
Bryantville	11	306
Buckland	2	1,550
Burlington	6	588
Buzzards Bay	12	400
Byfield	7	880
C		
Cambridge	6	104,839
Canton	9	4,797
Canton Junction	9	560
Carlisle	6	523
Carver	11	406
Caryville	9	575
Centerville	12	450
Central Village	10	250
Charlemont	2	845
Charlton	5	481
Charlton City	5	550
Charton Depot	5	406
Chartley	10	802
Chatham	12	1,000
Chelmsford	6	5,010
Chelsea	8	32,452
Cherry Valley	5	1,254
Cheshire	1	1,281
Chester	4	1,307
Chesterfield	3	421
Chicopee	4	25,401
Chicopee Falls	4	8,350
Chilmark	13	322
Chiltonville	11	565
Clarendon Hills	9	389
Clarksburg	1	491
Cliftondale	7	3,500
Clinton	5	13,075
Cochesett	11	795
Cochituate	6	1,303
Cohasset	9	2,585
Cold Brook	5	260
Coldbrook Springs	5	214
Colerain	2	1,209
Collinsville	6	1,327
Concord	6	6,421
Concord Junction	6	1,839
Conway	2	1,340
Cordaville	5	250
Cotuit	12	606
Crescent Beach	8	18,219
Cummington	3	744
D		
Dalton	1	3,568
Dana	5	230
Danvers	7	9,407
Danversport	7	1,000
Dartmouth	10	4,378
Davis	2	205
*Dedham	9	9,284
Deerfield	2	1,094
Dennis	12	306
Dennis Port	12	608
Dighton	10	950
Dodge	5	250
Dodgeville	10	250
Douglass	5	602
Dover	9	536
Dracut	6	3,461
Dudley	5	4,267
Dunstable	6	412
Duxbury	11	906
E		
East Acton	6	280
E. Blackstone	5	290
E. Braintree	9	1,206
E. Bridgewater	11	3,363
E. Brookfield	5	730
E. Dedham	9	3,674
E. Dennis	12	250
E. Douglass	5	1,500
E. Falmouth	12	250
E. Freetown	10	200
E. Hadley	3	321
Easthampton	3	8,524
E. Harwich	12	250
E. Lee	1	574
E. Lexington	6	831
E. Long Meadow	4	1,327
E. Mansfield	10	260
E. Milton	9	1,678
E. Northfield	2	781
Easton	10	5,139
Eastondale	10	373
E. Orleans	12	275
E. Pepperell	6	2,509
E. Princeton	5	260
E. Saugus	7	953
E. Taunton	10	1,000
E. Templeton	5	750

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Massachusetts Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
E. Walpole	9	703
E. Wareham	11	350
E. Weymouth	9	3,540
*Edgartown	13	1,175
Enfield	3	832
Erving	2	1,094
Essex	7	1,067
Everett	6	33,484
F		
Fairhaven	10	5,122
Fairview	4	213
*Fall River	10	119,295
Falmouth	12	3,144
Farley	2	328
Farnumsville	5	510
Fayville	5	450
Feeding Hills	4	1,365
Fisherville	5	820
Fiskdale	5	1,160
*Fitchburg	5	37,826
Florence	3	1,930
Forge Village	6	206
Foxboro	9	3,863
Framingham	6	12,948
Franklin	9	5,641
Furnace	5	280
G		
Gardner	5	14,699
Georgetown	7	1,900
Gilbertville	5	2,100
Gill	2	708
Gleasondale	6	705
Globe Village	5	2,975
Gloucester	7	24,398
Goshen	3	218
Grafton	5	5,705
Granby	3	747
Graniteville	6	1,190
Granville	4	735
Great Barrington	1	5,926
Greenbush	11	206
*Greenfield	2	10,421
Greenwich	3	364
Greenwood	6	466
Groton	6	1,852
Groveland	7	2,086
H		
Hadley	3	1,651
Halifax	11	494
Hamilton	7	732
Hampden	4	561
Hancock	1	434
Hanover	11	862
Hanson	11	605
Hardwick	5	3,524
Harvard	5	848
Harwich	12	691
Harwich Port	12	550
Hatfield	3	1,269
Haverhill	7	44,115
Hawley	2	359
Haydenville	3	1,096
Heath	2	243
Hebronville	10	806
Hingham	11	4,965
Hingham Center	11	760
Hinsdale	1	1,452
Holbrook	9	2,816
Holden	5	1,150
Holliston	6	2,711
Holyoke	4	57,730
Hopedale	5	2,048
Hopkinton	6	2,185
Hortonville	10	506
Housatonic	1	2,361
Hubbardston	5	1,010
Hudson	6	6,743
Hull	11	650
Huntington	3	1,306
Hyannis	12	1,264
Hyde Park	9	15,507
I		
Indian Orchard	4	6,153
Ipswich	7	5,777
J		
Jefferson	5	1,176
K		
Kendal Green	6	591
Kingston	11	1,950
L		
Lancaster	5	1,406
Lanesboro	1	751
Lanesville	7	1,606

Towns	*Loca.*	*Pop.*
*Lawrence	7	85,892
Lakeville	11	912
Lee	1	4,106
Leeds	3	1,151
Leicester	5	3,237
Lenox	1	3,060
Lenox Dale	1	512
Leominster	5	17,580
Leverett	2	406
Lexington	6	4,918
Leyden	2	286
Lincoln	6	558
Lincoln Station	6	564
Linwood	5	1,364
Littleton	6	819
Littleton Common	6	405
Long Meadow	4	964
Long Plain	10	221
*Lowell	6	106,294
Ludlow	4	4,948
Ludlow Center	4	559
Lynn	7	89,336
Lynnfield	7	445
Lynnfield Center	7	457
Lyonsville	2	256
M		
Magnolia	7	865
Malden	6	44,404
Manchaug	5	1,520
Manchester	7	2,673
Manomet	11	590
Mansfield	10	5,183
Marblehead	7	7,338
Marion	11	1,029
Marlboro	6	14,579
Marshfield	11	588
Marshfield Hills	11	506
Mashpee	12	303
Matfield	11	317
Mattapoisett	11	1,080
Maynard	6	6,390
Medfield	9	3,466
Medford	6	23,150
Medway	9	2,696
Melrose	6	15,715
Melrose Highlands	6	4,000
Mendon	5	922
Merrick	4	1,277
Merrimac	7	1,706
Methuen	7	11,448
Middleboro	11	8,214
Middlefield Sta.	3	232
Middleton	7	929
Milford	5	13,055
Millbury	5	4,740
Millers Falls	2	469
Millington	2	252
Millis	9	750
Mill River	1	203
Millville	5	1,935
Milton	9	7,924
Mittineague	4	2,931
Monson	4	4,758
Montague	2	6,866
Montague City	2	465
Monterey	1	444
Montgomery	4	259
Monument Beach	12	250
Mount Tom	3	223
Mundale	4	203
Myricks	10	649
N		
Nahant	7	972
Nantasket	9	1,060
Nantucket	14	2,962
Natick	6	9,866
Needham	9	5,026
Needham Hghts.	9	1,506
*New Bedford	10	96,652
New Braintree	5	477
Newbury	7	551
*Newburyport	7	14,949
New Lenox	1	299
New Marlboro	1	692
New Salem	2	271
Newton	6	39,806
Newton Center	6	6,066
Newton Highlands	6	3,990
Newton Lower Falls	6	2,055
Newton Upper Falls	6	3,506
Newtonville	6	5,505
Nobscot	6	302

Loca.	*County*	*Pop.*
Norfolk	9	760
N. Abington	11	2,292
N. Adams	1	22,019
N. Amherst	3	1,195
*Northampton	3	19,431
N. Andover	7	5,529
N. Attleboro	10	9,562
N. Bellingham	9	482
N. Billerica	6	625
Northboro	5	1,747
Northbridge	5	8,807
Northbridge Center	5	200
N. Brookfield	5	3,075
N. Carver	11	508
N. Chelmsford	6	1,605
N. Dana	5	587
N. Dartmouth	10	1,500
N. Dighton	10	1,020
N. Eastham	12	200
N. Easton	10	3,099
N. Falmouth	12	250
Northfield	2	775
Northfield Farms	2	214
N. Grafton	5	1,720
N. Hadley	3	245
N. Hanover	11	360
N. Hanson	11	200
N. Harwich	12	208
N. Leominster	5	1,209
N. Middleboro	11	360
N. Orange	2	281
N. Oxford	5	705
N. Plymouth	11	1,000
N. Raynham	10	562
N. Reading	6	903
N. Scituate	11	1,000
N. Stoughton	9	272
N. Truro	12	336
N. Uxbridge	6	552
N. Westport	10	506
N. Weymouth	9	908
N. Wilbraham	4	568
N. Wilmington	6	360
Norton	10	2,544
Norwell	11	934
Norwood	9	8,014
O		
Oak Bluffs	13	1,138
Oakdale	5	1,099
Oakham	5	305
Old Furnace	5	208
Onset	11	1,560
Orange	2	5,282
Orleans	12	677
Osterville	12	505
Otis	1	329
Otter River	5	550
Oxford	5	3,361
P		
Palmer	4	8,610
Paxton	5	444
Peabody	7	15,721
Pelham	3	460
Pemberton	11	561
Pepperell	6	2,953
Pepperell Sta.	6	2,500
Peru	1	268
Petersham	5	605
Phillipston	5	271
Pigeon Cove	7	955
*Pittsfield	1	32,121
Plainfield	3	332
Plainville	9	1,282
*Plymouth	11	12,141
Plympton	11	514
Plympton	11	255
Pocasset	12	325
Ponkapog	9	365
Pottersville	10	341
Pratts Junction	5	220
Prescott	5	1,056
Prescott	3	206
Princeton	5	607
Provincetown	12	4,369
Q		
Quinapoxet	5	414
Quincy Adams	9	32,642
Quissett	12	200
R		
Randolph	9	4,301
Raynham	10	1,106
Raynham Sta.	10	562
Reading	6	5,818
Readville	9	1,562

Towns	*Loca.*	*Pop.*
Rehoboth	10	1,540
Revere	8	18,219
Richmond	1	415
Riverside	2	315
Rockdale	5	560
Rochester	11	986
Rock	11	460
Rockland	11	6,928
Rockport	7	4,211
Rockville	9	322
Rowe	2	527
Rowley	7	1,288
Royalston	5	383
Royalston Sta.	5	628
Russell	4	630
Rutland	5	1,206
S		
Sagamore	12	368
*Salem	7	43,697
Salisbury	7	840
Salisbury Beach	7	624
Sandisfield	1	281
Sandwich	12	1,158
Saugus	7	8,041
Saundersville	5	720
Savoy	1	257
Saxsonville	6	2,000
Scituate	11	1,177
Scotland	11	206
Seaside	11	1,660
Seekonk	10	1,917
Sharon	9	2,085
Sheffield	1	1,627
Shelburne Falls	2	1,341
Sherborn	6	983
Shirley	6	1,492
Shirley Center	6	200
Shrewsbury	5	1,866
Shutesbury	2	374
Siasconset	14	268
Silver Lake	11	255
Sixteen Acres	4	250
Somerset	10	2,798
Somerville	6	77,236
South Acton	6	809
Southampton	3	927
S. Ashburnham	5	1,062
S. Ashfield	2	263
S. Attleboro	10	530
S. Barre	5	450
S. Berlin	5	200
Southboro	5	1,031
S. Braintree	9	3,109
Southbridge	5	12,592
S. Carver	11	435
S. Chatham	12	285
S. Chelmsford	6	395
S. Dartmouth	10	1,218
S. Deerfield	2	927
S. Dennis	12	265
S. Dukesbury	11	468
S. Easton	10	706
S. Egremont	1	542
S. Essex	7	723
S. Framingham	6	7,248
S. Groveland	7	376
S. Hadley	3	4,894
S. Hadley Falls	3	3,311
S. Hamilton	7	814
S. Hanover	11	622
S. Hanson	11	655
S. Harwich	12	360
S. Hingham	11	700
S. Lancaster	5	1,080
S. Lee	1	382
S. Lincoln	6	564
S. Middleboro	11	460
S. Natick	6	609
S. Rehoboth	10	287
S. Royalston	5	628
S. Sherborn	6	408
S. Sudbury	6	708
Southville	5	280
S. Walpole	9	300
S. Wareham	11	266
S. Westport	10	200
S. Wymouth	9	3,500
Southwick	4	1,048
S. Yarmouth	2	590
Spencer	5	6,740
*Springfield	4	88,926
Sterling	5	850
Sterling Jct.	5	245
Still River	5	259
Stockbridge	1	1,838
Stoneham	6	7,090
Stoughton	9	6,316
Stow	6	1,100
Sturbridge	5	814

Massachusetts Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Sudbury	6	309
Sunderland	2	910
Sutton	5	3,078
Swampscott	7	6,204
Swansea	10	550
Swansea Center	10	564
T		
*Taunton	10	34,259
Tempest Knob	12	350
Templeton	5	3,756
Tewksbury	6	3,750
Thorndike	4	1,373
Three Rivers	4	1,191
Tolland	4	274
Topsfield	7	1,095
Townsend	6	968
Townsend Harbor	6	304
Tremont	11	350
Truro	12	340
Turners Falls	2	5,115
Tyngsboro	6	768
Tyringham	1	314
U		
Upton	5	877
Uxbridge	5	4,671
V		
Vineyard Haven	13	1,108
W		
Waban	6	500
Wakefield	6	11,404
Wales	4	645
Walpole	9	4,892
Waltham	6	27,834
Wamesit	6	300
Waquoit	12	460
Ward Hill	7	400
Ware	3	8,774
Wareham	11	4,402
Warren	5	4,188
Warwick	2	527
Washington	1	339
Watertown	6	12,875
Waterville	5	632
Waverly	6	1,531
Wayland	6	917
Webster	5	11,509
Wellesley	9	5,413
Wellesley Hills	9	2,464
Wellfleet	12	858
Wendell	2	228
Wendell Depot	2	201
Wenham	7	814
West Acton	6	720
W. Auburn	5	265
W. Barnstable	12	308
W. Berlin	5	220
Westboro	5	5,446
W. Boylston	5	571
W. Brewster	12	200
W. Bridgewater	11	1,211
W. Brookfield	5	1,384
W. Chatham	12	250
W. Chelmsford	6	560
W. Cummington	3	225
W. Dennis	12	666
W. Dudley	5	1,263
W. Duxbury	11	450
W. Falmouth	12	275
Westfield	4	16,044
Westford	6	2,851
W. Groton	6	460
Westhampton	3	466
W. Hanover	11	554
W. Mansfield	10	508
W. Medford	6	4,300
W. Medway	9	1,250
W. Millbury	5	521
Westminster	5	998
Westminster Depot	5	350
W. Newbury	7	1,405
W. Newton	6	7,000
Weston	6	1,500
W. Orange	2	223
W. Peabody	7	308
W. Pittsfield	1	460
Westport	10	2,928
Westport Point	10	305
West Rutland	5	490
W. Springfield	4	9,224
W. Stockbridge	1	955
W. Stoughton	9	406
W. Sutton	5	200
W. Tisbury	13	357
W. Townsend	6	500
W. Upton	5	1,147
W. Wareham	11	350
W. Warren	5	1,193
W. Whately	2	366
Westwood	9	927
Weymouth	9	12,895
Whately	2	350
White Valley	5	208
Whitins	5	1,364
Whitinsville	5	4,309
Whitman	11	7,292
Wilbraham	4	1,140
Wilkinsonville	5	460
Williamsburg	3	847
Williamstown	1	3,708
Williamstown Station	1	764
Willimansett	4	1,451
Wilmington	6	1,370
Winchendon	5	5,678
Winchendon Springs	5	1,660
Winchester	6	9,309
Windsor	1	457
Winthrop Center	8	10,132
Woburn	6	15,303
Woods Hole	12	408
Woodville	6	360
*Worcester	5	145,986
Woronoco	4	423
Worthington	3	341
Wrentham	9	1,203
Y		
Yarmouth Port	12	665

MASSACHUSETTS

A GREAT MANUFACTURING REGION AND HIGH CLASS OF PEOPLE.

One purpose of this volume is to give information to **people living in cities** and others who wish to change their place of residence, and particularly to where **land may be obtained** to good advantage.

In our presentation of opportunities for families in getting support we are absolutely impartial. We have not the slightest pecuniary interest in any region of the country we describe. We are governed therefore by **no bias** in favor of any particular locality. Our mission is simply to present the merits of **all states**, tell the **extremes of climate**, describe each locality spoken of **truthfully** and leave readers to be their own judge as to where they had better go. Then, before buying **go and see** the property.

We aim to give the general geography of every state, the location of every county, and with this, location of every government land office, **agricultural college**, capital of the state and public institution, where further information may be obtained by correspondence with superintendents of these institutions.

We have made a specialty in this work of giving the location and population of every county in the United States, that the land seeker, might, besides corresponding with the Secretary of State, write to County authorities and get the facts about any particular locality.

We will say here, what we repeat elsewhere, to get a **prompt** answer the enquirer should always enclose a **prepaid envelope,** with name and address on same.

When leaving a city, as we said of another manufacturing State, the family is not always desirous of leaving for the sake of going upon **a farm.** They may wish to change abode for the purpose of surrounding the children with **different associations.** They may wish to change the home **to get employment** in some kind of manufacturing industry or other employment. Besides agricultural possibilities we speak generally of the industrial conditions of a State.

This brings us to a consideration of the opportunities for new settlers in the State of Massachusetts. In the beginning it may be said that this is **not** an agricultural but **a manufacturing** state. And yet people wishing to get themselves **beautiful homes** amid picturesque New England scenes will find many chances for **profitable investment** in every county in the state. If desirous of owning many acres or a small tract of land, in any county, open correspondence with one or more real estate agents, get descriptions and photographs of various properties in the market for sale, and after **seeing them** determine if any of them is what you want.

There are numerous highly **fertile valleys** in the State in which market gardening can be carried forward with profit. A **two or three weeks'** visit to this region would reveal all that.

But possibly the land seeker is principally intent upon finding, with a rural home, the opportunity for employment in some manufacturing industry. If so this is a superior region for **that purpose.** In proportion to its size Massachusetts is far ahead of any State in the Union in factory production, as shown in the fact that there are **in this State** about 400,000 wage earners employed in factories.

THE MANY RAPID FLOWING RIVERS.

There are various reasons for this being a great factory center. In the first place the maps enumerate **190 rivers** in this small state. Many of these are branches of larger rivers, yet all of them are so rapid in flow as to **give power.** Second, with over 300 miles of **sea coast,** providing numerous harbors for **incoming** raw material and **outgoing** manufactured product to the great markets of the world, there is superior chance to get the raw material **in** and the manufactured product **out,** to the world. Third, **accessibility** to the millions of people on the Atlantic coast that have to buy goods; and fourth, **long years** of experience in **getting factories established** and finding **avenues** of trade.

ALWAYS FIND OPPORTUNITY BY SEARCHING.

It is reasonable to suppose that with the immense call for population to go West, the ranks of these 400,000 workers in factories will be often broken, and there will be ample opportunity to find factory employment in this State at any time of the year.

A brief enumeration of goods made in Massachusetts includes the **finest** of carpets, silks, woolens, cottons, paper, shoes, matches, cutlery, agricultural implements, tools, silverware, bronzes, whips, drugs, chemicals, clocks and other goods much **too numerous** to mention.

Attracted by the high culture of the people, by the many educational advantages, by the **opportunity** for making of beautiful homes in the midst of charming scenery, great numbers of people, who have been well over the world, are going to the rural, picturesque uplands and pleasant valleys of Massachusetts to spend the last years of life.

PRICES OF REAL ESTATE IN MASSACHUSETTS.

We give elsewhere a list of some properties for sale in Massachusetts, which may be considered an average of hundreds of properties in the market.

Massachusetts Opportunities in Agriculture and Varied Enterprises

New England Properties for Sale

Altitude. Highest in the State, Mt. Greylock, in the extreme northwest part of the State, in Berkshire Co., 3,400 feet high.

Climate. Average annual January temperature at Boston 26 above. Average July 71. Extremes, 103 above and 13 below. Average annual rainfall, 45 inches.

Dimensions. Extreme length of State, 110 miles; extreme width, 190 miles.

Agricultural College. Amherst.

History. First permanent settlements made by the Pilgrims at Plymouth, 1620; by the Puritans at Salem, 1628; at Boston, 1630. King Phillip's war, 1675. Witchcraft trials at Salem, 1692, twenty persons executed. First newspaper, "Public Occurrences" in Boston, 1690. "Boston News Letter" funded 1704. Published till 1776. Boston massacre, 1770. Boston Tea Party, 1773; value tea destroyed, $100,000. Battles of Lexington, Concord and Bunker Hill, 1775.

PRICES OF SMALL FARMS AND VILLAGE PROPERTIES IN MASSACHUSETTS.

Although this state is densely populated, it is seen, from these items, which we cut from a real estate advertising sheet, that homes can be obtained here at reasonable prices. For values on farm properties write to Secretary of States for list of real estate dealers in Massachusetts.

NORFOLK COUNTY, MASS.

West Medway is located on the Woonsocket division of the New York, New Haven and Hartford Railroad, only 27 miles from Boston; commutation $26 per quarter. Take train leaving South Station, Boston, or River Street Station, Woonsocket, R. I.

West Medway is a town of about 1,600 people. It has good graded grammar and high schools, electric lights, trolley cars, woolen mill, shoe, straw and box factories. It is surrounded by prosperous manufacturing and farming towns, and as prices are steadily advancing, it is one of the most desirable localities in which to purchase property.

West Medway—15 Acres—$4,200.

This is a beautiful country home, as you can readily see by glancing at the above picture. The house is well worth $5,000, but the owner is in ill health and must sell at once, therefore he offers it at a bargain. Located ¾ cf a mile from stores, postoffice, depot, etc. The land is nicely adapted to gardening and fruit raising; there is now a fine lot of plums, pears, grapes, blackberries and strawberries in bearing; 25 to 50 apple trees. **The house contains 11 rooms,** is heated by furnace; the rooms are light and airy, and surroundings are pleasant. Price only $4,200; $1,000 can remain on mortgage.

West Medway—2 Acres—$2,500.

Three minutes' walk to depot and electric cars; 50 minutes' ride to Boston; fine **2-story house, 11 rooms,** with a chance to finish 3 more; heated by furnace; nice wide piazza (see cut); small stable; all in perfect repair; very pretty elm and maple shade; 10 minutes' walk from the Charles River; 3 apple trees, 1 cherry, 2 pear, 1 quince; fine large garden. Only $2,500; ½ down, balance on mortgage at 5 per cent.

West Medford—40 Acres—$2,100.

Productive farm, and very attractive set of buildings; 15 acres in smooth level fields; 10 acres in pasture; 15 acres in wood; some pine timber; 100 barrels of apples in season; raspberries, blackberries, good asparagus bed. The **house is 1½ stories, contains 7 rooms,** and sets well back from the street, with fine shady lawn; barn 30x40, with basement and tie-up for 5 cows; wood shed; 2 poultry houses, that will accommodate 100 hens; within 1¼ miles of village; mail delivery; few steps to neighbors. You can make money here keeping poultry and raising vegetables. Only $2,100; $600 down.

West Medway—3½ Acres—$2,000.

Fine large house arranged for 2 families; upper part can always be rented if desired (see cut). The rooms are large and light; **house contains 10 rooms;** water supply by wells; poultry house 13x16; in wide-awake village, where there is a ready market for poultry, berries, vegetables, etc. You can keep several hundred hens, and raise 2 or 3 acres of garden truck each year. There are 12 apple and 6 pear trees; plenty of cherries, grapes, peaches, currants, etc., for home use. To make a quick sale price has been reduced to only $2,000; ½ cash. Possession in 15 days.

West Medway—2½ Acres—$1,800.

This is one of those nice, clean, comfortable looking homes that you have often wished you owned. Very pleasant surroundings; level lawn; nice walk, and on a good street. **House contains 12 rooms,** with bath; well with force pump, that forces water to tank in attic; barn 20x12, clapboarded walls; 2 poultry houses; brooder house, very warm. House is finished in natural wood; rooms are well papered and painted; located right in the village and few steps to everything. The owner has business elsewhere and to insure immediate sale has reduced his price to $1,800; only $900 down, the balance on easy terms.

West Medway—½ Acre—$1,800.

Large house with store on one side (see cut); located in prosperous village. There is a fine chance to sell building lots, as the land fronts on the street for many rods; **15 rooms,** besides store, any number of which can be rented; wood shed and hen house; elm shade; few minutes' walk from depot and trolley cars. This is an exceptionally good opportunity to secure a good home and small store. Price only $1,800; $600 down, balance on easy payments.

West Medway—4 Acres—$1,700.

One of the nicest little homes that you could desire; located right in the village on main street, just the place for a carpenter or mechanic; house contains 5 rooms and is supplied with well water by a pump in the kitchen; barn 22x30; poultry house 10x40, where the present owner has been making money keeping fowls; the land is level and easily worked; abundance of apples, pears, plums, peaches and raspberries in good bearing condition. Only $1,700; $300 down, balance on mortgage. Now is your opportunity before some wideawake fellow gets this before you. Such places sell quickly.

West Medway—3 Acres—$1,300.

Productive small farm on main street; trolleys pass it; ½ mile to stores, schools, churches, etc.; same distance to factory and the best of markets. The house is well built and **contains 5 rooms.** There are 2 poultry houses and a good chance to build more; apple, plums, pears and grapes for home use; the land is level and excellent for raising all garden crops. Plenty of employment to be had in the village.

West Medway—2 Acres—$1,100.

A good poultry farm is a small gold mine. Here is one of them. This **house is 2 stories, 10 rooms,** with piazza; water supply by well; barn 15x20, clapboard walls; poultry house 50 feet long; 2 acres good garden land; 12 apple trees, 2 pears, 2 cherries; raspberries; located in village, few steps to railroad station and trolley cars. This is a house that would cost $2,000 to build and with the exception of needing a little paint and paper it is in good condition. The owner is very anxious to sell, and has reduced the price to $1,100; only $300 down, and the balance, payable in installments of $50 a year, with interest.

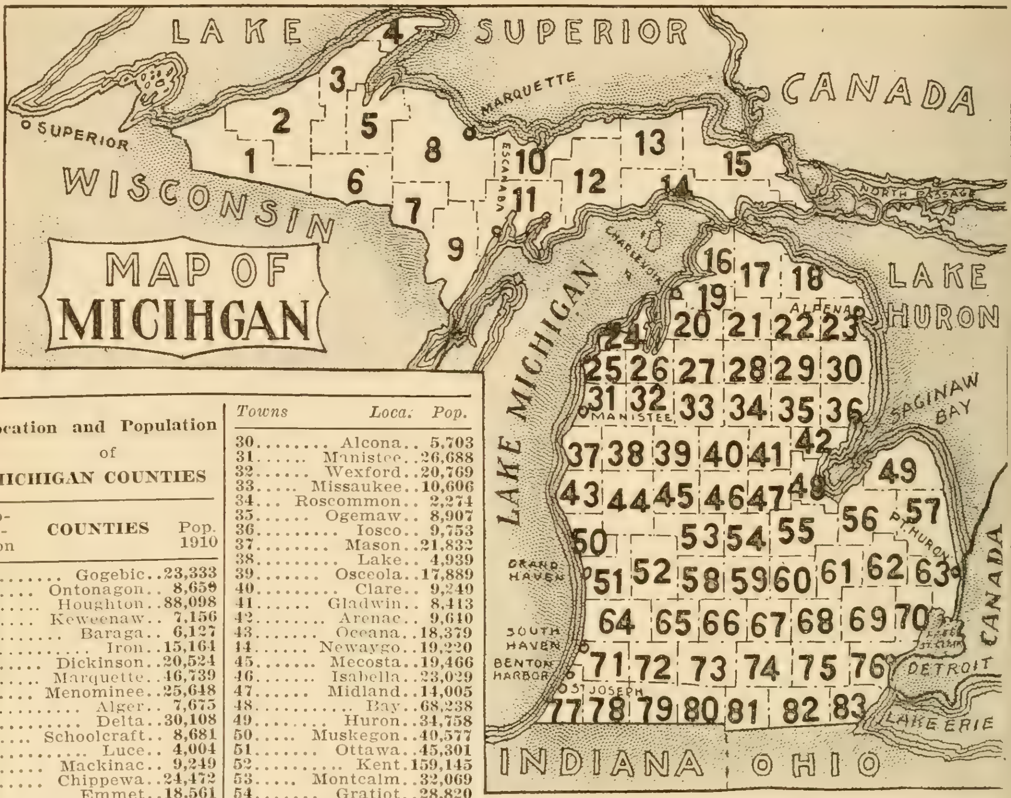
MASSACHUSETTS HEALTH AND PLEASURE RESORTS

Swampscott, Mass.—This favorite resort of Bostonians is 1 mile beyond the village of Lynn. It has three sea-beaches, and picturesque headlands, elegant villas, safe and excellent bathing, and is everywhere indicative of wealth and fashion. In a business point of view it has a large trade in fresh fish—principally cod and haddock—caught in the vicinity by residents, and forwarded to market.

Oak Bluffs (Martha's Vineyard) Mass.—This religious summer resort is controlled by Baptists, whose tabernacle will seat 5,000 persons. The surrounding grounds have been attractively improved, and it is estimated that 25,000 visitors arrive and depart during the season. Martha's Vineyard is an island 21 miles long by 6 miles wide, between which and the mainland flows Vineyard Sound, 4 miles wide.

STATE AND THE 83 COUNTIES OF MICHIGAN

With Their Boundaries



Location and Population of MICHIGAN COUNTIES

Location	COUNTIES	Pop. 1910
1	Gogebic	23,333
2	Ontonagon	8,659
3	Houghton	88,098
4	Keweenaw	7,156
5	Baraga	6,127
6	Iron	15,164
7	Dickinson	20,524
8	Marquette	46,739
9	Menominee	25,648
10	Alger	7,675
11	Delta	30,108
12	Schoolcraft	8,681
13	Luce	4,004
14	Mackinac	9,249
15	Chippewa	24,472
16	Emmet	18,561
17	Cheboygan	17,272
18	Presque Isle	11,249
19	Charlevoix	19,157
20	Antrim	15,692
21	Otsego	6,552
22	Montmorency	3,755
23	Alpena	19,965
24	Leelanau	10,608
25	Benzie	10,638
26	Grand Traverse	23,784
27	Kalkaska	8,097
28	Crawford	3,934
29	Oscoda	17,889
30	Alcona	5,703
31	Manistee	26,688
32	Wexford	20,769
33	Missaukee	10,606
34	Roscommon	2,274
35	Ogemaw	8,907
36	Iosco	9,753
37	Mason	21,832
38	Lake	4,939
39	Osceola	17,889
40	Clare	9,249
41	Gladwin	8,413
42	Arenac	9,640
43	Oceana	18,379
44	Newaygo	19,220
45	Mecosta	19,466
46	Isabella	23,029
47	Midland	14,005
48	Bay	68,238
49	Huron	34,758
50	Muskegon	40,577
51	Ottawa	45,301
52	Kent	159,145
53	Montcalm	32,069
54	Gratiot	28,820
55	Saginaw	89,290
56	Tuscola	34,913
57	Sanilac	33,930
58	Ionia	33,550
59	Clinton	23,159
60	Shiawassee	33,246
61	Genesee	64,555
62	La Peer	26,033
63	St. Clair	52,341
64	Allegan	39,819
65	Barry	22,633
66	Eaton	30,499
67	Ingham	53,310
68	Livingston	17,736
69	Oakland	49,576
70	Macomb	32,606
71	Van Buren	33,185
72	Kalamazoo	60,427
73	Calhoun	56,638
74	Jackson	53,426
75	Washtenaw	44,714
76	Wayne	531,590
77	Berrien	56,622
78	Cass	20,624
79	St. Joseph	25,499
80	Branch	25,605
81	Hillsdale	29,673
82	Lenawee	47,907
83	Monroe	32,917
	Total	2,810,173

Michigan Cities and Villages with 1910 Populations.

Towns	Loca.	Pop.
A		
Ada	52	390
Adair	63	214
Addison	82	474
*Adrian	82	10,763
Ahmeek	4	766
Akron	56	475
Alabaster	36	619
Alanson	16	473
Alaska	52	344
Alba	20	692
Albion	73	5,833
Alden	20	628
Alger	42	250
Algonac	63	1,204
*Allegan	64	3,419
Allen	81	550
Allendale	51	208
Allonez	4	1,103
Alma	54	3,757
Almont	62	675
*Alpena	23	12,706
Alston	3	1,092
Alto	52	350
Amasa	6	418
Anchorville	63	420
Anderson	68	209
*Ann Arbor	75	14,817
Arcadia	31	403
Armada	70	748
Ashland	44	1,523
Ashley	54	513
Ashton	39	209
Athens	73	631
*Atlanta	22	250
Atlantic Mine	3	2,023
Attica	62	499
Auburn	48	309
Au Gres	42	252
Augusta	72	464
Au Sable	36	648
Averill	47	340
Avoca	63	250
Axin	32	516
B		
Bad Axe	49	1,559
Bailey	50	350
Bainbridge	77	1,590
*Baldwin	38	502
Baltic	3	2,500
Bancroft	60	543
Bangor	71	1,158
Bannister	54	481
Baraga	5	1,071
Barker Creek	27	280
Bark River	11	709
Baroda	77	249
Barryton	45	411
Bath	59	317
Battle Creek	73	25,267
*Bay City	48	45,166
Bay Mills	15	290
Bayshore	19	300
Bayside	48	300
Beacon	8	1,078
Bear Lake	31	504
Beavertown	41	418
Bedford	73	225
Beach	76	241
Belding	58	4,118
*Bellaire	20	1,050
Bellville	76	486
Bellvue	66	930
Bennington	60	265
Benton Harbor	77	9,185
Benzonia	25	563

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Michigan Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Bergland	2	211
Berlin	51	304
Berrien Center	77	209
Berrien Springs	77	880
*Bessemer	1	4,583
Beulah	25	420
Big Bay	8	308
Big Beaver	69	209
*Big Rapids	45	4,519
Bingham	24	811
Birch	8	609
Birmingham	69	1,607
Blanchard	46	219
Blaney	12	250
Bliss	16	252
Blissfield	82	1,474
Bloomingdale	71	501
Boardman	27	524
Boon	32	304
Borland	45	506
Boyne City	19	5,218
Boyne Falls	19	325
Breckenridge	54	595
Breedsville	71	219
Bridgeport	55	305
Bridgeton	44	767
Bridgman	77	250
Brighton	68	781
Brimley	15	500
Britton	82	370
Bronson	80	1,020
Brooklyn	74	602
Brown City	57	690
Buchanan	77	1,831
Buckley	32	464
Burlington	73	237
Burnips Corners	64	206
Burr Oak	79	752
Burt	55	200
Butternut	53	250
Buttersville	37	300
Byron	60	427
Byron Center	52	406
C		
Cadillac	32	8,375
Caledonia	52	422
California	80	209
Calumet	3	32,845
Cambria	81	350
Camden	81	392
Capac	63	761
Carlton	83	506
Carlton Center	65	1,309
Carney	9	410
*Caro	76	2,272
Carrollton	55	2,208
Carson City	53	808
Carsonville	57	401
Cascade	52	1,209
Caseville	49	442
Casnovia	50	308
Cass City	56	1,120
*Cassopolis	78	1,358
Cedar	24	406
Cedar Lake	53	206
Cedar River	9	509
Cedar Run	25	260
Cedar Springs	52	947
Cement City	82	509
*Centerville	79	613
Central Lake	20	813
Ceresco	73	350
Champion	8	2,500
Channing	7	506
*Charlevoix	19	2,420
*Charlotte	66	4,886
Chase	38	209
Chassell	3	750
Chatham	10	750
*Cheboygan	17	6,859
Chelsea	75	1,764
Chesaning	55	1,363
Chippewa Lake	45	309
Clare	40	1,350
Clarion	19	200
Clarkston	69	345
Clarksville	58	375
Clawson	69	206
Claybanks	43	712
Clayton	82	372
Clearwater	27	542
Clifford	62	308
Climax	72	425
Clinton	82	1,011
Clio	61	810
Clyde	69	209
Coalwood	10	280
*Coldwater	80	5,945
Coleman	47	909
Coloma	77	701
Colon	79	853
Columbiaville	62	369
Commerce	69	250
Comstock	72	206
Comstock Pk.	52	309
Concord	74	543
Conklin	51	200
Constantine	79	1,244
Cooks	12	820
Cooper	72	250
Coopersville	51	814
Copemish	31	490
Coral	53	509
Corrinne	14	250
*Corunna	60	1,384
Covert	71	325
Cross Village	16	506
Croswell	57	1,820
Crump	48	350
Crystal	53	326
*Crystal Falls	6	3,775
Culver	27	290
Custer	37	277
D		
Daggett	9	228
Dansville	67	349
Davis	70	209
Davisburg	69	306
Davison	61	673
Dearborn	76	911
Decatur	71	1,286
Deckerville	57	628
Deerfield	82	443
Defiance	11	200
Deford	56	260
Delaware Mine	4	269
Delhi Mills	75	200
Delta	66	275
Delton	65	308
Demmon	3	209
*Detroit	76	465,766
Deward	28	390
De Witt	59	450
Dexter	75	726
Dice	55	362
Dick	15	209
Dighton	39	460
Dimondale	66	341
Diorite	8	460
Dollar Bay	3	1,809
Dollarville	13	460
Dorr	64	392
Douglas	64	485
Dowagiac	78	5,088
Drayton Plains	69	320
Drenthe	51	662
Drummond	15	306
Dryden	62	371
Dundee	83	1,070
Durand	60	2,315
E		
Eagle Harbor	4	576
East Grand Rapids	52	893
East Jordan	19	2,516
Eastlake	31	8,062
East Lansing	67	306
Eastport	20	209
East Saugatuck	64	362
East Tawas	36	1,452
Eaton Rapids	66	2,094
Eau Claire	17	307
Ecorse	76	1,063
Edmore	53	752
Edwardsburg	78	509
Elk Rapids	20	1,672
Elkton	49	553
Ellsworth	20	375
Elm Hall	54	362
Elmira	21	590
Eloise	76	792
Elsie	59	592
Emmett	63	292
Empire	24	578
Erie	83	350
*Escanaba	11	13,194
Essexville	48	1,477
Eureka	59	208
Evart	39	1,386
Ewen	2	350
F		
Fairfax	79	280
Fairfield	82	350
Fairgrove	56	437
Fair Haven	63	362
Fargo	63	390
Farmington	69	564
Farwell	40	522
Fennville	64	533
Fenton	61	2,331
Ferrysburg	51	450
Fife Lake	26	340
Filter City	31	592
Flat Rock	76	650
*Flint	61	38,550
Flushing	61	938
Ford City	76	1,689
Ford River	11	793
Forestville	57	234
Foster City	7	396
Fostoria	56	408
Fountain	37	250
Fowler	59	476
Fowlerville	68	905
Frankenlust	48	208
Frankenmuth	55	693
Frankfort	25	1,555
Fraser	70	220
Freda	3	500
Frederic	28	400
Freeland	55	450
Freeport	65	460
Free Soil	37	250
Fremont	44	2,009
Frontier	81	225
Fruitport	50	330
Fulton	72	350
G		
Gagetown	56	358
Gaines	61	238
Galesburg	72	636
Galien	77	405
Garden	11	497
Garnet	14	250
Gatesville	15	890
*Gaylord	21	1,538
Germfask	12	210
Gert	83	226
Gilead	80	808
Girard	80	250
Gladstone	11	4,211
*Gladwin	41	988
Glen Arbor	24	390
Glen	64	362
Gobleville	71	537
Graafschap	64	209
Grand Blanc	61	360
*Grand Haven	51	5,856
Grand Ledge	66	2,893
Grand Marias	10	2,500
*Grand Rapids	52	112,571
Granville	52	680
Grant	44	428
Grass Lake	74	760
Grattan	52	1,200
Grawn	26	250
*Grayling	28	1,775
Greengarden	8	250
Greenland	2	1,509
Greenville	53	4,045
Gregory	68	250
Grind Stone City	49	462
Groscap	14	225
Grosse Isle	76	700
Grosse Pointe	76	830
Grosse Point Farms	76	862
Grosspoint Pk.	76	290
Gwinn	8	1,092
H		
Hadley	62	325
Haff	15	250
Halfway	70	706
Hamburg	68	250
Hamilton	64	275
Hamtramck	76	3,559
Hancock	3	8,981
Hanover	74	364
Harbor Beach	49	1,556
Harbor Springs	16	1,805
Harriette	32	336
Harris	9	290
*Harrison	40	543
*Harrisville	30	441
*Hart	43	1,555
Hartford	71	1,268
Hartland	68	215
Haslett	67	200
*Hastings	65	4,383
Hemlock	55	250
Henrietta	74	292
Herman	5	300
Hermansville	9	1,200
*Hersey	39	310
Hesperia	43	462
Hessel	14	260
Highland	69	398
Highland Park	76	4,120
*Hillsdale	81	5,001
Hilltop	77	225
Holland	51	10,490
Holly	69	1,537
Holt	67	350
Holton	50	300
Homer	73	1,008
Homestead	25	1,009
Honor	25	509
Hopkins	64	400
Horton	74	379
*Houghton	3	5,113
Howard City	53	1,046
*Howell	68	2,338
Hubbard Lake	23	290
Hubbardston	58	450
Hubbell	3	1,059
Hudson	82	2,178
Hudsonville	51	362
Humboldt	8	263
I		
Ida	83	223
Imlay City	62	1,174
Indian River	17	350
Ingalls	9	524
Inkster	76	206
Interlochen	26	509
*Ionia	58	5,030
*Iron Mountain	7	9,216
Iron River	6	2,450
Ironwood	1	12,821
Isabella	11	200
Ishpeming	8	12,448
*Ithaca	54	1,876
J		
*Jackson	74	31,433
Jacobsville	3	800
Jamestown	51	300
Jasper	82	250
Jenison	51	309
Jennings	33	1,200
Johannesburg	21	762
Jones	78	200
Jonesville	81	1,396
Joyfield	25	328
K		
*Kalamazoo	72	39,437
*Kalkaska	27	1,415
Kaukawlin	48	250
Karsarge	3	869
Kent City	52	467
Kenton	3	509
Kinde	49	360
Kingsley	26	499
Kingston	56	302
Kipling	11	480
Kretan	15	200
L		
Laingsburg	60	703
Lake	40	293
*Lake City	33	740
Lake Linden	3	2,235
Lake Odessa	58	1,222
Lakeview	53	954
Lake Wood	16	296
Lamb	63	292
Lamont	51	409
*L'Anse	5	708
Lansing (capitol)	67	31,229
*La Peer	62	3,946
Laramie	15	570
La Rocque	18	209
Laurium	3	8,537
Lawrence	71	663
Lawton	71	1,042
Legrand	17	250
*Leland	24	406
Lenox	70	350
Leonard	69	313
Leonidas	79	390
Le Roy	39	331
Leslie	67	1,032
Levering	16	350
Lewiston	22	550
Lexington	57	519
Liberty	74	206
Linden	61	550
Linwood	48	293
Litchfield	81	660

Michigan Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Long Rapids	23	223
Loomis	46	392
Loretto	7	660
Lott	30	362
Lowell	52	1,761
Lucas	33	250
*Ludington	37	9,132
Lum	62	250
Luther	38	626
Lyons	58	611
M		
McBain	33	546
McBrides	53	236
McMillan	13	290
Mackinac Island	14	714
Mackinaw	17	697
Macomb	70	292
Macon	82	237
Mancelona	20	1,209
Manchester	75	1,047
*Manistee	31	12,381
*Manistique	12	4,722
Manton	32	1,069
Maple City	24	268
Maple Rapids	59	529
Marcellus	78	1,046
Marenisco	1	250
Marine City	63	3,770
Marion	39	767
Marlette	57	1,062
*Marquette	8	11,503
*Marshall	73	4,236
Martin	64	450
Marysville	63	270
*Mason	67	1,742
Mass	2	1,060
Matherton	58	309
Mattawan	71	309
Maybee	83	310
Mayville	56	687
Mears	43	450
Mecosta	45	352
Melvin	57	242
Memphis	70	557
Mendon	79	768
Menominee	9	10,570
Meridian	67	290
Merrill	55	505
Mesick	32	510
Metamora	62	276
Metropolitan	7	580
Michigamme	8	962
Middleton	54	452
Middleville	65	804
*Midland	47	2,527
Milan	75	1,355
Milford	69	973
Milbrook	45	402
Millersburg	18	519
Millett	66	208
Millington	56	623
Minden City	57	332
*Mio	29	209
Moddersville	33	208
Mohawk	4	1,060
*Monroe	83	6,893
Montague	50	942
Monterey	64	1,415
Montgomery	81	362
Montrose	61	443
Morenci	82	1,515
Morley	45	337
Morrice	60	470
Moscow	81	209
Mosherville	81	505
*Mt. Clemens	70	7,707
Mount Morris	61	513
*Mt. Pleasant	46	3,972
Muir	58	463
Mulliken	66	312
Munger	48	202
*Munising	10	2,952
Munith	74	208
*Muskegon	50	24,062
Muskegon Heights	50	1,690
N		
Nadeau	9	1,000
Nahma	11	700
Napoleon	74	334
Nashville	65	1,346
National Mine	8	700
Naubinway	14	250
Navarre	76	471
Negaunee	8	8,460
*Newaygo	44	1,207
New Baltimore	70	920
*Newberry	13	1,182
New Boston	76	218
New Buffalo	77	528
New Era	43	225
New Haven	70	478
New Lothrop	60	305
Newport	83	450
New Troy	77	392
Niles	77	5,156
North Adams	81	440
North Branch	62	717
North Detroit	76	250
North Kearsarge	3	800
North Muskegon	50	350
Northport	24	524
Northstar	54	300
Northville	76	1,665
Norway	7	4,974
Nottawa	79	384
Novi	69	309
Nunica	51	402
O		
Oak Grove	68	274
Oak Hill	31	314
Oakley	55	237
Oakwood	76	781
Ogontz	11	273
Ojibeway	4	240
Old Mission	26	243
Olivet	66	627
Omer	42	367
Onaway	18	2,702
Onekama	31	324
Onondaga	67	406
Onsted	82	398
*Ontonagon	2	1,964
Opechee	3	1,413
Orion	69	717
Ortonville	69	377
Oscoda	36	864
Osseo	81	385
Otisco	58	206
Otisville	61	312
Otsego	64	2,812
Ottawa Lake	83	201
Otter Lake	62	273
Overisel	64	202
Ovid	59	1,078
Owendale	49	285
Owosso	60	9,639
Oxford	69	1,191
P		
Paavola	3	350
Paines	55	203
Painesdale	3	1,250
Palmer	8	799
Palms	57	308
Palmyra	82	225
Palo	58	327
Paris	45	350
Parklake	39	250
Parma	74	509
Parshallville	68	406
*Paw Paw	71	1,643
Paye	76	306
Pearl Beach	63	202
Peck	57	274
Pellston	16	1,089
Pentoga	6	309
Pentwater	43	1,129
Pequaming	5	309
Perkins	11	406
Perrington	54	288
Perry	60	720
Petersburg	83	490
*Petoskey	16	4,778
Pewano	58	289
Pickford	15	406
Pigeon	49	687
Pikespeak	76	201
Pinckney	68	477
Pinconning	48	677
Pinnebog	49	209
Pittsford	81	450
Plainfield	68	209
Plainwell	64	1,493
Plymouth	76	1,671
Point Mills	3	208
Pokagon	78	302
Pomona	31	203
*Pontiac	69	14,532
Port Austin	49	533
Port Hope	49	344
*Port Huron	63	8,863
Portland	58	1,832
Port Sanilac	57	216
Posen	18	263
Potterville	66	430
Powers	9	511
Prairieville	65	250
Prattville	81	308
Prescott	35	609
Princeton	8	1,809
Prosper	33	206
Provemont	24	250
Pulaski	74	259
Q		
Quincy	80	1,347
R		
Ransom	81	206
Rapid City	27	406
Rapid River	11	609
Ravenna	50	508
Reading	81	1,102
Ready	55	580
Redford	76	328
Red Jacket	3	4,211
Redridge	3	409
Reed City	39	1,690
Reeman	44	250
Remus	45	459
Republic	8	2,314
Rexton	14	309
Richland	72	278
Richmond	70	1,277
Richmondville	57	280
Richville	56	250
Ridgeway	82	306
Riga	82	213
Riggsville	17	206
Riley Center	63	209
Riverdale	54	406
River Rouge	76	4,163
Reeves Junct'n	74	208
Rochester	69	1,516
Rockford	52	843
Rockland	2	1,090
Rockwood	76	500
Rockwood Sta	83	316
Rodney	45	290
*Rogers	18	705
Romeo	70	1,787
*Roscommon	34	425
Rose	69	542
Rosebush	46	296
Rose City	35	506
Roseville	70	509
Rothbury	43	206
Royal Oak	69	1,071
Royalton	77	1,164
Rumeley	10	286
S		
Saganing	42	396
*Saginaw	55	50,510
Sagola	7	360
Saint Charles	55	1,451
Saint Clair	63	2,638
Saint Clair Heights	76	1,252
*Saint Ignace	14	2,118
Saint Jacques	11	360
Saint James	19	589
*Saint Johns	59	3,154
*Saint Joseph	77	5,936
Saint Louis	54	1,940
Saline	75	816
Sand Lake	52	370
Sands	8	240
*Sandusky	57	993
Saranac	58	845
Saugatuck	64	621
*Sault Ste. Marie	15	12,615
Sawyer	77	396
Schaffer	11	206
Schoolcraft	72	816
Schofield	83	225
Scotts	72	350
Scottville	37	891
Sears	39	200
Sebewa	58	380
Sebewaing	49	1,347
Shaftsburg	60	369
Shelby	43	1,260
Shepherd	46	835
Sheridan	53	436
Sherman	32	260
Sherman City	46	250
Sherwood	80	346
Silverwood	56	286
Simons	20	250
Six Lakes	53	275
Skanee	5	266
Slocum	50	696
Smyrna	58	236
Somerset	81	1,237
Somerset Center	81	200
South Blendon	51	1,680
S. Boardman	27	660
S. Frankfort	25	681
South Haven	71	3,577
South Lyon	69	615
South Range	3	1,097
S. Rockwood	83	316
Spalding	9	500
Sparta	52	1,203
Spencer	27	269
Spring Arbor	74	250
Spring Lake	51	802
Springport	74	584
Spring Wells	76	1,590
Spruce	30	333
Stambaugh	6	1,322
*Standish	42	828
*Stanton	53	1,012
Stephenson	9	527
Stevensville	77	243
Stittsville	33	296
Stockbridge	67	663
Stonington	11	480
Stronach	31	354
Sturgis	79	3,635
Sumner	54	392
Sunfield	66	385
Suttons Bay	24	402
T		
*Tawas City	36	1,061
Tecumseh	82	2,332
Tekonsha	73	573
Temperance	83	292
Temple	40	282
Thayer	69	402
Thomas	69	406
Thompson	12	250
Thompsonville	25	815
Thorice	15	209
Thornville	62	250
Three Oaks	77	1,175
Three Rivers	79	5,072
Tower	17	542
*Traverse City	26	12,115
Trenton	76	1,224
Trimountain	3	50
Trout Creek	2	597
Trufant	53	350
Turner	42	509
Tuscola	56	255
Tustin	39	371
Twining	42	267
Twin Lake	50	209
U		
Ubly	49	442
Union City	80	1,340
Unionville	56	456
Utica	70	496
V		
Van	16	298
Vandalia	78	371
Vanderbilt	21	523
Vans Harbor	11	262
Vassar	56	1,659
Vermontville	66	650
Vernon	60	435
Vestaburg	53	438
Vicksburg	72	1,624
Victoria	2	460
Viola	14	250
Viresland	51	250
Vulcan	7	1,590
W		
Wakefield	1	714
Waldenburg	70	350
Waldron	81	435
Walkers Point	14	290
Walkerville	43	371
Walloon Lake	19	306
Walton	26	250
Waltz	76	250
Warren	70	297
Washington	70	208
Waterford	69	225
Waters	21	260
Watersmeet	1	542
Watervliet	77	728
Watronsville	56	244
Watson	64	1,117
Waucehah	7	250
Wayland	64	725
Wayne	76	1,263
Webberville	67	349

Michigan Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Weidman	46	569
Wells	11	1,500
*West Branch	35	1,276
Weston	82	254
Westphalia	59	366
West Windsor	66	251
Wetmore	10	360
Wetzell	20	250
Wexford	32	250
Wheeler	54	250
Wheelerton	74	250
White Cloud	44	618
Whitehall	50	1,437
White Pigeon	79	667
Whitmore Lake	75	362
Whittemore	36	218
Williamsburg	26	300
Williamston	67	1,042
Wilson	9	506
Winn	46	250
Winters	10	290
Wixom	69	220
Wolverine	17	794
Woodland	65	304
Woodstock	82	590
Woodville	44	250
Wright	51	1,609
Wyandotte	76	8,287
Wyman	53	209
Y		
Yale	63	1,223
Yankee Spring	65	676
Yatton	14	250
Ypsilanti	75	6,230
Z		
Zeeland	51	1,982
Zilwaukee	55	914

Michigan Opportunities in Agriculture and Varied Enterprises

History. The finding of remains of ancient mines and mining implements indicate the settlement and civilization of the State in very early times.

Why two parts of the State? Why are fifteen counties of Michigan, comprising an area of over 16,000 square miles, a space twice as large as Massachusetts, situated away by themselves on the south side of Lake Superior? The reason is this:

Following the ceding of the territory west of Lake Michigan, by the Indians to the United States, the territory of Michigan, in 1818, included also the territory now occupied by the State of Wisconsin.

In dividing the territory between Michigan and Ohio by the government two surveys were made. The first placed Toledo in the State of Michigan. The last survey, however, so changed the boundary lines as to bring Toledo into the State of Ohio. The result was a hotly contested dispute that came near bloodshed by the rival States.

The United States Government finally proposed, in 1836, as the territory of Michigan had applied for admission to the Union, to grant the request on condition that Michigan would relinquish the disputed territory to Ohio and take, as compensation, the 16,000 square miles of territory comprising the present 15 counties lying adjoining and south of Lake Superior. The proposition, at first rejected, was finally accepted, and so, of the 83 counties of Michigan, 15 of these counties are scattered away to the northward of Wisconsin and Lake Michigan. The final development of iron and copper mines on this upper peninsula made the relinquishment of the small tract of disputed land to Ohio a very fortunate exchange for Michigan.

These two irregular parts of Michigan are separated by the Strait of Mackinaw, connecting Lake Michigan and Lake Huron. **The lower** and larger peninsula embraces the whole territory between these lakes, though the upper peninsula contains more than one-third of the land surface of Michigan. In proportion to its area, Michigan has a longer coast line than any other State.

The Porcupine Range of mountains is the watershed in the upper peninsula between the streams flowing into Lake Superior and those flowing into Lake Michigan. This range at its highest point is 1,400 feet above Lake Superior—2,000 feet above the sea.

AGRICULTURAL CONDITIONS ON UPPER PENINSULA.

The surface on the mountain sides present considerable variety of soil. There are numerous lakes and marshes and great forests where pine and soft woods are the prevailing growths, though fine groves of sugar maples are found in some places. A good deal of government land is yet to be found in each of the upper peninsula counties.

Mining and Lumbering. Though this region of the State is quite cold in the winter, many prosperous towns are found throughout this territory, the lumber interest and mining giving employment to great numbers of workmen.

The yield of iron and copper places Michigan in the front rank of mining States. The iron mines here are in four districts—Marquette, Menominee, Gogebic and Vermilion—and the annual yield generally gives the State first place in this industry. The copper region at the northwest end of the upper peninsula, extending for 35 miles in length and from 1 to 6 miles in width, is situated mostly in the counties of Ontonagon, Houghton and Keweenaw. The annual product of Michigan copper, and that mostly from this immediate region, is about one-third of that of the whole country.

Notwithstanding the large output of lumber and mineral wealth, agriculture is nevertheless the leading industry. Indian corn will not ripen on the upper peninsula, but wheat, rye, oats and barley are grown there. Apples, pears, quinces, plums, cherries and all the small fruits grow there to perfection.

Dimensions. Upper peninsula, greatest length from east to west, 320 miles; greatest breadth, 130 miles. Lower peninsula, greatest length, 280 miles from north to south; greatest width, from east to west, 200 miles.

Altitude. Highest in the State, Porcupine Mountain, in Ontonagon County, 2,020 feet high.

Climate. Average annual January temperature at Marquette, 16 above. At Port Huron, St. Clair county, it is 21. Average annual July temperature at Marquette is 65; at Port Huron, 69. Extremes, 108 above at Marquette, 27 below; at Port Huron, 99 above and 25 below. Rainfall, 32.4 inches at Marquette; 31.6 at Port Huron.

Possibly the landseeker contemplates the purchase of real estate on the lower peninsula. In this quest he cannot go amiss. For a region so well situated as the lower part of Michigan there is a small showing for density of population in a State so well located as Michigan.

On the great highway between the East and the West, with great growing cities and markets on either side, with a highly fertile soil, why should Michigan be only about one-third as densely populated as Ohio?

It is simply because the attention of people has been occupied with clearing the land of its lumber supply. New settlers are just beginning to pour in. With every natural facility for sustaining a dense population, it is clearly evident that this State will be very thickly settled and land values will greatly advance over present prices, which are from $6 to $12 per acre unimproved.

The climate in that portion of Michigan located between Lakes Michigan and Huron is tempered by the prevailing breeze from one direction or another. It is cooler in the summer, from the lake breeze, and it is warmer in the winter. All the counties bordering upon Lake Michigan are found to have a soil and climate especially favorable to the growing of peaches, strawberries, grapes and other fruits, and hundreds of small tracts of land known as "fruit farms" have been developed in the past few years.

Besides a fertile soil and favorable climate, Michigan ranks usually first or second among States in the production of salt, while on the Lake Huron shore there are rock formations which yield excellent grindstone, lime, building stone and slate.

It should be remembered that for a generation Michigan has been almost purely a lumber State. It is comparatively recently that the raising of grain has began to occupy attention.

BECOMES A MANUFACTURING STATE.

An interesting feature about this State is the rapid advances made in manufacturing. Among articles made here are lumber in its numerous market forms, flour and gristmill products, machine and foundry materials, furniture, tobacco in its various forms, iron and steel, men's clothing, shipbuilding, agricultural implements, chemicals and paper.

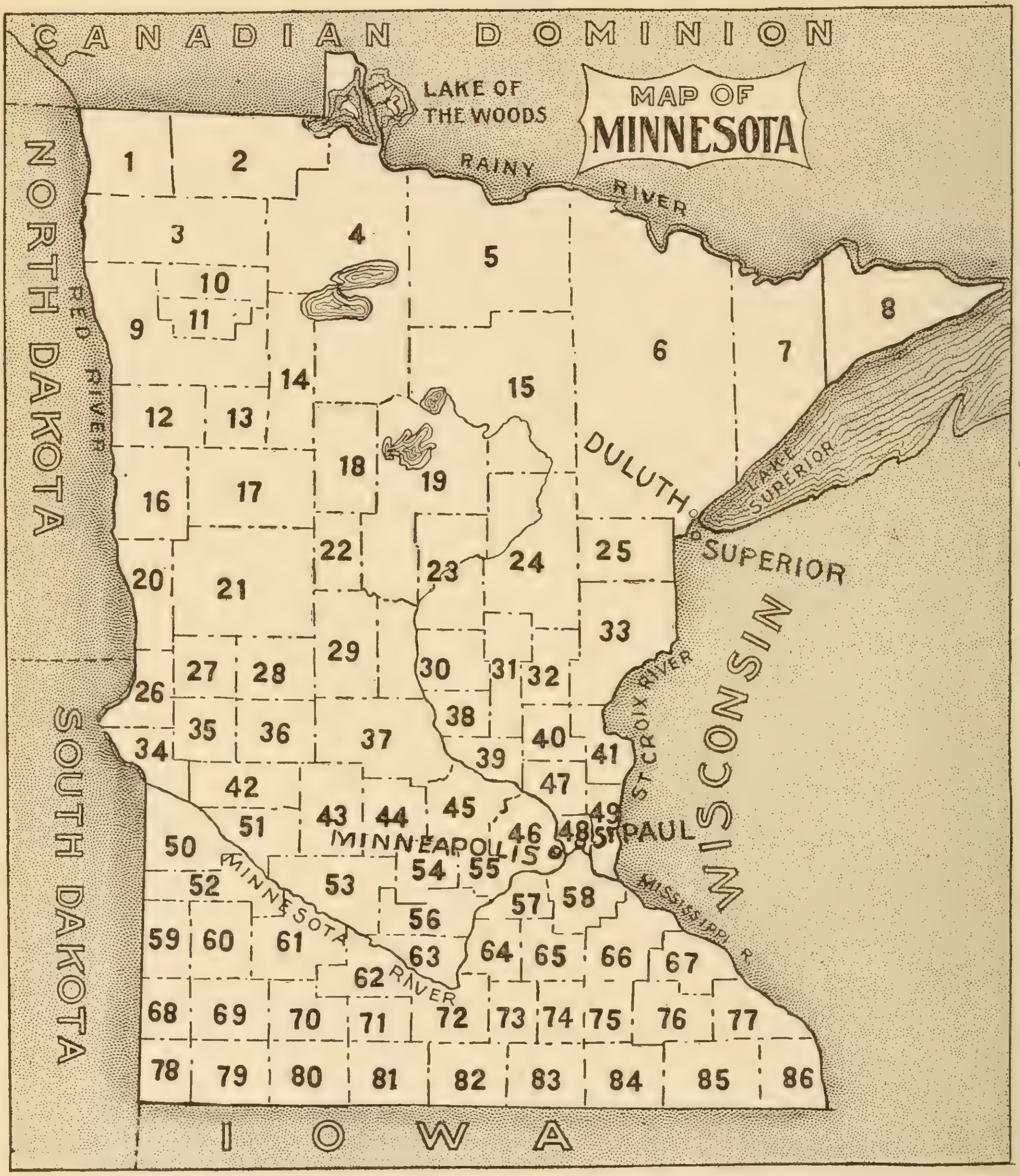
Important manufacturing cities are Grand Rapids with its superior water power, Saginaw, Battle Creek, Adrian, Albion, Muskegon, famous for its toys, woodenware and pianos; Traverse City, Lansing and Detroit, the latter city being the most noted of any city for making automobiles.

Shipbuilding is carried on at Port Huron, Wyandotte and Detroit; silk manufacturing at Belding.

Mackinac Island, now a National Park, is located at the northern end of the Peninsula of Michigan, in the Straits of Mackinac, and is accessible from all points by rail or vessel. The island is now a national park, reserved for the benefit of tourists and visitors, and offers, during the warm seasons, a cool and pleasant retreat from sultry air and crowded thoroughfares. It contains an area of 3,850 acres, or 3 miles long by 2 miles wide, with an elevation above the straits varying from 200 to 320 feet.

STATE AND THE 86 COUNTIES OF MINNESOTA

With Their Boundaries



LOCATION AND 1910 POPULATION OF MINNESOTA COUNTIES.

Loca.	*County*	*Pop.*	*Loca.*	*County*	*Pop.*	*Loca.*	*County*	*Pop.*	*Loca.*	*County*	*Pop.*
MINNESOTA COUNTIES			10	Pennington	15,878	20	Wilkin	9,063	30	Morrison	24,053
1	Kittson	9,669	11	Red Lake	15,940	21	Ottertail	46,046	31	Millelacs	10,705
2	Roseau	11,338	12	Norman	13,446	22	Wadena	8,652	32	Kanabec	6,461
3	Marshall	16,338	13	Mah'nome	3,249	23	Crow Wing	16,861	33	Pine	15,878
4	Beltrami	19,337	14	Clearwater	6,870	24	Aitkin	10,371	34	Bigstone	9,367
5	Koochiching	6,431	15	Itaska	17,208	25	Carlton	17,559	35	Stevens	8,293
6	St. Louis	163,274	16	Clay	6,870	26	Traverse	8,049	36	Pope	12,746
7	Lake	8,011	17	Becker	18,840	27	Grant	9,114	37	Stearns	47,733
8	Cook	1,336	18	Hubbard	9,831	28	Douglas	17,669	38	Benton	11,615
9	Polk	36,001	19	Cass	11,620	29	Todd	23,407	39	Sherburne	8,136

Minnesota Counties—Continued

Loca.	County	Pop.	Loca.	County	Pop.	Loca.	County	Pop.	Loca.	County	Pop.
40	Isanti	9,114	52	YellowMedicine	15,403	64	Lesueur	18,609	76	Olmsted	22,497
41	Chisago	13,537	53	Renville	23,123	65	Rice	25,911	77	Winona	33,398
42	Swift	12,949	54	McLeod	18,691	66	Goodhue	31,637	78	Rock	10,222
43	Kandiyohi	18,969	55	Carver	17,455	67	Wabasha	18,554	79	Nobles	15,210
44	Meeker	17,022	56	Sibley	15,540	68	Pipestone	9,553	80	Jackson	14,491
45	Wright	28,082	57	Scott	14,888	69	Murray	11,755	81	Martin	17,518
46	Hennepin	333,840	58	Dakota	25,171	70	Cottonwood	12,651	82	Faribault	19,949
47	Anoka	12,493	59	Lincoln	9,874	71	Watonwan	11,382	83	Freeborn	22,282
48	Ramsey	223,675	60	Lyon	15,722	72	Blue Earth	29,337	84	Mower	22,640
49	Washington	26,013	61	Redwood	18,425	73	Waseca	13,466	85	Fillmore	25,680
50	Lac Qui Parle	15,435	62	Brown	20,134	74	Steele	16,146	86	Houston	14,297
51	Chippewa	13,458	63	Nicollet	14,125	75	Dodge	12,094		Total	2,075,708

Minnesota Cities and Villages with 1910 Populations.

Towns	Loca.	Pop.
A		
*Ada	12	1,432
Adams	84	576
Adrian	79	1,112
Afton	49	308
*Aitkin	24	1,638
Akely	18	1,635
Albany	37	657
*Albert Lea	83	6,192
Albertville	45	250
Alden	83	544
*Alexandria	28	3,001
Alpha	80	223
Altura	77	200
Amboy	72	435
Annandale	45	624
*Anoka	47	3,972
Appleton	42	1,221
Arago	18	210
Argyle	3	744
Arlington	56	733
Arnold	6	396
Ashby	27	334
Atkinson	25	311
Atwater	43	660
Audubon	17	308
Aurora	6	1,919
*Austin	84	6,960
Avoca	69	212
Avon	37	277
B		
Badger	2	395
*Bagley	14	801
Balaton	60	364
Barnesville	16	1,353
Barnum	25	262
Barrett	27	278
Bath	83	852
Battle Lake	21	567
Baudette	4	897
Beardsley	34	481
Beaver Bay	7	209
Becker	39	210
Belgrade	37	418
Belleplaine	57	204
Bellingham	50	359
Belview	61	290
*Bemidji	4	5,099
*Benson	42	1,677
Bertha	29	296
Bethel	47	221
Big Falls	5	325
Big Lake	39	229
Bingham Lake	70	285
Bird Island	53	931
Biwabik	6	1,690
Blackduck	4	942
Blakeley	57	225
Blooming Prairie	74	854
*Blue Earth	82	2,319
Bovey	15	1,377
Boyd	50	431
Braham	40	406
*Brainerd	23	8,526
Brandon	28	276
*Breckenridge	20	1,840
Brewster	79	311
Brycelyn	82	352
Brighton	63	260
Brookpark	33	208
Brooten	37	562
Browerville	29	633
Brownsdale	84	264
Brownsville	86	361
Brownton	54	509
Brown Valley	26	1,058
Bruno	33	229
*Buffalo	45	1,227
Buffalolake	53	371
Buhl	6	1,005
Burtrum	29	217
Butterfield	71	377
Byron	76	272
C		
*Caledonia	86	1,372
Callaway	17	276
Calumet	15	245
*Cambridge	40	966
Campbell	20	303
Canby	52	1,528
Cannon Falls	66	1,385
Canosia	6	235
Canton	85	345
*Carlton	25	597
Carver	55	571
Cass Lake	19	2,011
*Center City	41	252
Centerville	47	260
Ceylon	81	330
Champlin	46	350
*Chaska	55	2,050
Chatfield	85	1,228
Chisago City	41	276
Chisholm	6	7,684
Chokio	35	328
Clara City	51	587
Claremont	75	275
Clarissa	29	364
Clarkfield	52	603
Clear Lake	39	263
Clear Water	45	311
Cleveland	64	212
Climax	9	269
Clinton	34	384
Cloquet	25	7,031
Cohasset	15	521
Cokato	45	718
Cold Spring	37	594
Coleraine	15	1,613
Collegeville	37	240
Cologne	55	390
Columbia Hgts	47	590
Comfrey	62	238
Comstock	16	202
Cort	15	360
Costin	6	231
Cotton	6	238
Cottonwood	60	770
Courtland	63	208
*Crookston	9	7,559
Culver	6	216
Currie	69	329
Cyrus	36	272
D		
Danube	53	217
Danvers	42	215
Dassel	44	643
Dawson	50	1,318
Dayton	46	343
Deephaven	46	234
Deer Creek	21	313
Deer River	15	908
Deer Wood	23	586
De Graff	42	215
Delano	45	1,031
Delavan	82	284
Dent	21	244
*Detroit	17	2,807
Dexter	84	281
Dilworth	16	500
Dodge Center	75	957
Donnelly	35	276
Dover	76	233
*Duluth	6	78,466
Dundas	65	357
E		
Eagle Bend	29	551
Eagle Lake	72	231
E. Grand Forks	9	2,533
Easton	82	262
East St. Cloud	38	666
Echo	52	430
Eden Valley	44	740
Edgerton	68	381
Edina Mills	46	1,191
Eitzen	86	209
*Elbow Lake	27	771
Elgin	67	324
*Elk River	39	859
Ellendale	74	261
Ellsworth	79	536
Elmore	82	795
Ely	6	3,572
Elysian	64	345
Emmons	83	223
Erskine	9	321
Eslarn	37	208
Evansville	28	389
Eveleth	6	7,036
Excelsior	46	1,015
Eyota	76	423
F		
Fairfax	53	815
*Fairmont	81	2,958
Fall Lake	6	426
*Faribault	65	9,001
Farmington	58	1,024
Feeley	15	300
*Fergus Falls	21	6,887
Fertile	9	614
Fisher	9	328
Floodwood	6	481
*Foley	38	710
Fond du Lac	6	309
Forest Lake	49	540
Foreston	31	204
Fort Snelling	46	800
Fosston	9	1,075
Fountain	85	321
Foxhome	20	206
Franklin	53	439
Frazee	17	1,645
Freeport	37	450
Fridley	47	200
Frontenac	66	275
Fulda	69	743
G		
Garden City	72	263
Gary	12	251
Gaylord	56	610
Ghent	60	210
Gibbon	56	533
Gilbert	6	1,700
Gladstone	48	560
*Glencoe	54	1,788
Glenville	83	368
*Glenwood	36	2,161
Gloster	48	500
Glyndn	16	295
Goldenvalley	46	692
Goodhue	66	408
Good Thunder	72	419
Graceville	34	987
Granada	81	333
*Grand Marais	8	355
Grand Meadow	84	552
Grand Portage	8	362
*Grand Rapids	15	2,239
*Granite Falls	52	1,454
Gravelville	30	987
Greenbush	2	274
Green Isle	56	256
Grey Eagle	29	378
Grove City	44	351
H		
*Hallock	1	910
Halloway	42	215
Halstad	12	494
Hamilton	85	271
Hammond	67	241
Hancock	35	524
Hanley Falls	52	275
Hanover	45	267
Hanska	62	310
Hardwick	78	292
Harmony	85	655
Harris	41	673
Hartland	83	227
*Hastings	58	3,983
Hawley	16	860
Hayfield	75	586
Hector	53	866
*Henderson	56	753
Hendricks	59	406
Hendrum	12	355
Henning	21	603
Herman	27	694
Hernon Lake	80	803
Hewitt	29	322
Hibbing	6	8,832
Hill City	24	220
Hills	78	398
Hinckley	33	673
Hoffman	27	391
Hokah	86	406
Holding	37	276
Holdingford	37	350
Holdridge	46	275
Holland	68	293
Holloway	42	215
Hopkins	46	3,066
Houston	86	760
Hovland	8	211
Howard Lake	45	626
Hubbard	18	306
Hugo	49	264
Hutchinson	54	2,368
I		
*International Falls	5	1,487
Invergrove	58	260
Iona	69	308
Isanti	40	316
*Ivanhoe	59	484
J		
*Jackson	80	1,907
Janesville	73	1,173
Jasper	68	704
Jeffers	70	227
K		
Kalavala	25	450
Kasota	64	760
Kasson	75	932
Keewatin	15	695
Kelliher	4	294
Kellogg	67	372
Kennedy	1	232
Kensington	28	244
Kent	20	238
Kenyon	66	1,237
Kerkhoven	42	432
Kiester	82	258
Kilkenny	64	208

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Minnesota Cities and Villages with 1910 Populations.

Towns	*Loca.*	*Pop.*
Kimball	37	312
Kingston	44	250
Kinney	6	809
Knife River	7	491
L		
La Crescent	86	372
Lake Benton	59	844
Lake City	67	3,142
Lake Crystal	72	1,055
Lakefield	80	924
Lakeland	49	343
Lake Park	17	740
Lakeville	58	385
Lake Wilson	69	219
Lamberton	61	652
Lancaster	1	204
Lanesboro	85	987
Le Roy	84	702
Lester Prairie	54	420
Le Sueur	64	1,755
*Le Sueur Center	64	741
Lewiston	77	473
Lewisville	71	218
Lindstrom	41	522
Lismore	79	268
*Litchfield	44	2,333
*Little Falls	30	6,078
*Long Prairie	29	1,250
Lonsdale	65	271
Lowry	36	252
*Luverne	78	2,540
Lyle	84	552
Lynd	60	209
M		
Mabel	85	549
McIntosh	9	634
McKinley	6	411
Madelia	71	1,273
*Madison	50	1,811
Madison Lake	72	335
*Mahnomen	13	796
Mahtowa	25	383
*Mankato	72	10,365
*Mantorville	75	410
Maple Lake	45	522
Maple Plain	46	225
Mapleton	72	809
Marble	15	887
Marietta	50	338
Marine Mills	49	491
*Marshall	60	2,152
Maynard	51	386
Mazeppa	67	471
Melrose	37	2,591
Menahga	22	346
Mendota	58	245
Mentor	9	222
Midway	6	379
Milaca	31	1,102
Milan	51	468
*Minneapolis	46	301,408
Minneiska	67	395
Minneota	60	819
Minnesota City	77	211
Minnesota Lake	82	445
*Montevideo	51	3,056
Montgomery	64	1,267
Monticello	45	858
Montrose	45	284
*Moorhead	16	4,840
Moose Lake	25	526
*Mora	32	892
Moranbrook	29	553
Morgan	61	553
*Morris	35	1,685
Morristown	65	592
Morton	53	761
Motley	30	428
Mound	46	300
Mount Iron	6	1,343
Murdock	42	288
N		
Nashua	20	271
Nashwauk	15	2,080
Nassau	50	213
Nerstrand	65	292
Nevis	18	238
New Auburn	56	261
New Brighton	48	375
New Duluth	6	808
Newfolden	3	286
New Germany	55	210
New London	43	418
Newmarket	57	901
Newport	49	370
New Prague	64	1,554
New Richland	73	685
*New Ulm	62	5,648
New York Mills	21	474
Nicollet	63	368
Nielsville	9	209
North Branch	41	642
Northfield	65	3,261
North Mankato	63	1,210
Northhome	5	204
North St. Paul	48	1,404
Norwood	55	522
Nymore	4	334
O		
Odessa	34	235
Ogilvie	32	270
*Olivia	53	960
Onamia	31	314
*Ortonville	34	1,774
Osakis	28	1,013
Oslo	3	344
Osseo	46	390
Ottawa	64	212
*Owatonna	74	5,658
P		
Parkers Prairie	21	383
*Park Rapids	18	1,801
Paynesville	37	926
Pelican Rapids	21	1,019
Pequot	23	260
Perham	21	1,376
Peterson	85	266
Petrell	6	250
Pierz	30	545
Pike	6	305
Pillager	19	216
*Pine City	33	1,258
Pine Island	66	834
Pine River	19	329
*Pipestone	68	2,475
Plainview	67	1,175
Plato	54	238
Porter	52	253
*Preston	85	1,193
*Princeton	31	1,555
Proctor	6	936
Proctornott	6	2,243
R		
Racine	84	202
Raymond	43	334
*Red Lake Falls	11	1,757
*Red Wing	66	9,048
*Red Wood Falls	61	1,666
Reeds	67	279
Renville	53	1,182
Rice	38	262
Richfield	46	2,673
Richmond	37	563
Richville	21	255
Robbinsdale	46	765
*Rochester	76	7,844
Rockford	45	287
Rolling Stone	77	205
Roosevelt	2	252
*Roseau	2	644
Rose Creek	84	202
Rosemount	58	238
Rothsay	20	343
Round Lake	79	287
Royalton	30	676
Rush City	41	964
Rushford	85	1,011
Rushford	85	686
Rushmore	79	237
Russell	60	262
Ruthton	68	290
S		
Sabin	16	302
Sacred Heart	53	587
St. Bonifacius	46	275
Saint Charles	77	1,159
Saint Clair	72	323
*Saint Cloud	37	10,608
Saint Francis	47	364
Saint Hilaire	10	468
*Saint James	71	2,102
Saint Joseph	37	706
St. Louis Park	46	1,743
Saint Michael	45	401
Saint Michael	45	223
*Saint Paul (capital)	48	214,744
St. Paul Park	49	832
*Saint Peter	63	4,176
Saint Vincent	1	328
Sanborn	61	462
Sandstone	33	1,818
Sauk Center	37	2,154
Sauk Rapids	38	1,745
Sartell	37	240
Savage	57	330
Scanlon	25	572
Sebeka	22	428
*Shakopee	57	2,302
Sherburn	81	814
Silver Lake	54	382
Skibo	6	200
*Slayton	69	850
Sleepy Eye	62	2,247
South Bermidji	4	527
South Haven	45	287
South Park	58	500
South St. Paul	58	4,510
So. Stillwater	49	1,343
Spicer	43	228
Spooner	4	668
Springfield	62	1,482
Spring Grove	86	620
Springlake	49	290
Spring Valley	85	1,817
Staples	29	2,556
Starbuck	36	497
Stephen	3	412
Stevenson	6	200
Stewart	54	460
Stewartville	76	794
*Stillwater	49	10,198
Sundahl	12	309
Sundby	6	200
Swanville	30	397
T		
Taconite	15	549
Taunton	60	205
Tawney	85	454
Taylors Falls	41	454
Tenstrike	4	250
*Thief River Falls	10	3,714
Tintah	26	217
Tofte	8	249
Tower	6	1,111
Tracy	60	1,340
Triumph	81	243
Truman	81	451
Twin Valley	12	543
*Two Harbors	7	4,990
Tyler	59	614
U		
Ulen	16	438
V		
Vasa	66	200
Vergas	21	237
Verndale	22	538
Vernon Center	72	289
Veseli	65	300
Vesta	61	243
Viking	3	205
Villard	36	260
Vining	21	212
Virginia	6	10,473
W		
*Wabasha	67	2,622
Wabasso	61	343
Waconia	55	817
*Wadena	22	1,820
Wahkon	31	260
Walte Park	37	406
*Walker	19	917
Walnut Grove	61	366
*Warren	3	1,613
Warroad	2	927
*Waseca	73	3,054
Watertown	55	465
Waterville	64	1,273
Watkins	44	366
Waubun	13	250
Waverly	45	460
Wayzata	46	492
Welcome	81	543
Wells	82	1,755
Wesely	65	235
Westbrook	70	429
West Concord	75	584
W. Minneapolis	46	3,022
West St. Paul	58	2,660
Whalan	85	1,121
*Wheaton	26	1,300
White Bear Beach	48	1,724
White Bear Lake	48	1,505
White Earth	17	350
*Willmar	43	4,135
Willow River	33	212
Wilmont	79	258
Wilton	4	215
*Windom	70	1,749
Winnebago	82	1,554
*Winona	77	18,583
Winsted	54	296
Winthrop	56	1,043
Winton	6	390
Woodlake	52	292
Woodstock	68	226
*Worthington	79	2,385
Wrenshall	25	690
Wykoff	85	456
Wyoming	41	207
Y		
Young America	55	303
Z		
Zumbro Falls	67	208
Zumbrota	66	1,138

Minnesota, the Bread and Butter State. History.

History. Visited by Duluth, at head of Lake Superior, 1679; visited by a party of fur traders and the falls of St. Anthony named by Louis Hennepin in 1680. Minnesota formed a part of extensive territory ceded by France to Great Britain in 1763. Explored by Jonathan Carver of Connecticut in 1766. Came into the possession of the United States in 1783. Lieut. Z. N. Pike obtained the Fort Snelling Reservation from the Dakota Indians in 1805. Fort Snelling established in 1819. Corner stone laid of Fort Snelling and Col. Josiah Snelling placed in command. Place thenceforth called Fort Snelling, 1820. Mill built at Falls of St. Anthony, 1822. First steamboat to Mendota, near Fort Snelling, 1823. Settlement made near St. Paul by Swiss colonists, 1830, and at Stillwater, 1843. Territory of Minnesota organized in 1849, with Missouri River its western boundary. Admitted to the Union in 1858. Massacre of settlers on frontier settlements by Sioux Indians, killing 1,000 whites, 1862. Indian lands at head of the lakes ceded to the United States, 1855. First frame house in Duluth erected, 1856. First sawmill at Duluth, on Minnesota Point, erected in 1856-7. St. Paul & Duluth railroad completed, 1870.

This is one of the most rapidly growing States in the Union, in wealth and population.

Opportunities in Agriculture and Varied Enterprises

MINNESOTA.

One of the Northern Border States Rapidly Increasing in Population.

MISTAKEN IDEA ABOUT CLIMATE.

The impression formerly prevailed that the climate here was **too cold** to grow most agricultural products, whereas experience has proven that the State, in general, has not only a highly fertile soil but a healthy climate **favorable for the growth** of all the cereals and the most of the vegetables and **fruits.**

NOT SO VERY FAR NORTH

A study of the map shows that Minnesota is **not** so far north as people had supposed. Examination of a Canadian map shows Hudson Bay very conspicuously, and the idea might be entertained that the whole region is not habitable; but comparison with other parts of the globe, in geographical position, reveals that there are other parts of the world, even considerably farther North, that have long been settled and cultivated.

COMPARED WITH OTHER REGIONS

Crossing at the widest part of Hudson Bay is the Sixtieth Parallel of latitude. Tracing this parallel around the earth we find that living north of this are the people of St. Petersburg and Stockholm and the majority of the inhabitants of Sweden and Norway.

POPULATION EXPANDING NORTHWARD

The facts are, while the winters are long, the air is dry, the people **do not feel the cold** as is the case in warmer climates with more moisture in the air. **The average spring** temperature is 46, summer about 70, autumn 38; in winter about 17; giving an average annual of about 45. The eastern part of the State is subject to the heaviest rainfall, the annual average being from 24 to 36 inches.

The soil, especially in the northern part of the State, is exceedingly fertile, and is one of the **best wheat** producing regions in North America. The fertility of soil in the **Red River Valley** permits the growth of very large crops and farmers in that region **rapidly acquire wealth.** The greatest hindrance the farmers in some portions of the northern counties have had has been the **swampy conditions** of the land. There are hundreds of thousands of acres of government land in that region of the country **yet unappropriated** from that reason.

SWAMP LANDS TO BE RECLAIMED

For the purpose of reclaiming this land the Interior Department of the government, under the Reclamation Act, has in contemplation the running of a series of **ditches that will drain** about 400,000 acres of land in the vicinity of Thief River Falls. This will open great quantities of land to settlement and be but the **beginning of improvements** which will bring into thorough cultivation great quantities of land, now too wet.

The Chippewa lands, ceded under the Nelson Act of 1889, cover an area of over **5,000 square miles**—3,200,000 acres. The first efforts at drainage will be just **northeast** of Thief River Falls. A tract of land has been selected including 600 square miles, 384,000 acres, which area will be extended as fast as lands are sold and appropriated.

WILL MAKE THE VERY BEST FARMS

When reclaimed by drainage these swamp lands will rank with the **best farms** in this region. The soil, which is a black sandy loam, is particularly suited to **crops which grow** in this latitude.

PLAN OF DRAINAGE

The plan of drainage recommended provides for two main ditches, from four to six miles apart, each about **forty miles** long, with laterals at right angles located about seven miles apart. Minor drainage ditches should reach each 160-acre lot. Such work would accomplish the drainage of 266,750 acres of government and private land and the improvement of 135,750 additional acres, making a total of 402,500 acres that would be benefited.

WEALTHY FARMERS IN SOUTHERN MINNESOTA

The southern and central parts of Minnesota are settled with a class of wealthy farmers whose lands have become worth $50 per acre. The soil in this region is a rich loam from **two to five feet** deep and of great durability. Here the **finest wheat** in the world is grown and from it the **best flour** is made.

Buckwheat, rye, flaxseed and potatoes are also raised in abundance. The hay and potato crops are of great value. The **quality** of Minnesota potatoes has a widely extended reputation. There have been, in years past, standing signs in the Fulton Market, New York, bearing the words, **"Minnesota Potatoes."**

According to William E. Curtis, in the Chicago Record Herald, the value of Minnesota wheat crop in 1910 was $88,435,000; oats, $25,000,000; corn, $25,000,000.

Butter, $50,000,000, made in 803 creameries, the product of 1,125,000 cows. The first creamery in the state was established at Bath, Freeborn County, in 1890, followed by the state founding a dairy school in 1891, succeeded by the employment, in 1892, of an expert, to visit creameries of the state, inspect sanitary conditions and give instruction to dairymen. The result is that Minnesota usually carries away the first prize from nearly every agricultural exhibition where her dairy products are on exhibition. A byproduct, developed out of the dairy business, is hogs, the value of which, in 1910, was $35,000,000, largely fed and fattened on skim milk.

WAITING FOR TIMBER TO BE CUT.

The agricultural interests of a large part of Minnesota have had to wait for the timber to be cleared away, lumbering on the lands adjoining the largest rivers of the State being the principal work of many thousands of men during the past twenty years.

The cultivated farms have demonstrated that the hardier fruits, such as apples, pears, cherries, plums, grapes of the northern varieties, strawberries, raspberries, blackberries, currants, etc., yield abundantly. For peaches and the more tender kinds of grapes the **seasons are too short.** Of the wild fruits, the crab apple and plum are excellent and the **native cranberry** is a source of great profit. Of the native forage plants botanists claim **160 species.**

To get a fairly comprehensive idea of the greatness of the State and its probable future the landseeker should **spend a week** in Minneapolis and St. Paul in a study of land values, manufacturing, and as wholesale points, for distribution of products over the Northwest. Following the **visit to the Twin Cities** the tourist should see Duluth, a young but **rapidly growing city,** at the head of the lakes.

After going up to the iron mining districts northward from Duluth, contemplating the manufacturing possibilities, healthfulness of climate and the many inducements for living in the State, consider statistics for a little time. Is there any reason why this population should not be as dense here as in Rhode Island some time? Mind, we say **some time.** That is indefinite and perhaps a good ways off, but when that time comes there will be many millions of people in this State. Saying nothing more about Rhode Island, let us consider Illinois. **Is there any reason** why Minnesota should not be as densely populated as the Prairie State? It is highly probable that it will be. What then? Minnesota had 22.1 persons to the square mile in the 1900 census and Illinois had 86.1. When Minnesota attains to the present density of Illinois' population, she will have four times more people in her borders than now. Will each of the 400 interior Minnesota villages and cities be four times larger than now? Will Minneapolis and St. Paul be four times larger? Will there be 300,000 people crowded onto the mountain side at Duluth and overflowing clear out to Lester Park and West Duluth? Yes, certainly. Why not? **Duluth is at the** head of the lakes. Chicago was at the head of Lake Michigan. People had to stop there, and goods on freight boats had to break bulk. **Duluth is similar** to Chicago in position. They have to break bulk there and all cities, where they have to break bulk, become large cities.

FUTURE LARGE POPULATION IN MINNESOTA.

Certainly all Minnesota cities that are fairly prosperous will be four times larger than now, and landseekers looking the State all over will find Minnesota a **very safe State** in which to settle and invest in real estate.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude. Highest in the State the Mesaba Range, with elevations 100 feet above the adjacent lands.

Cities.

Climate. Average January temperature at St. Paul, 11 above; July, 72; warmest, 104; coldest, 41 below; average annual precipitation of rain and snow, 27.5 inches.

Duluth: Average January temperature, 10; July, 66; highest, 99; lowest, 41; average annual rainfall, precipitation of rain and snow, 31.0 inches.

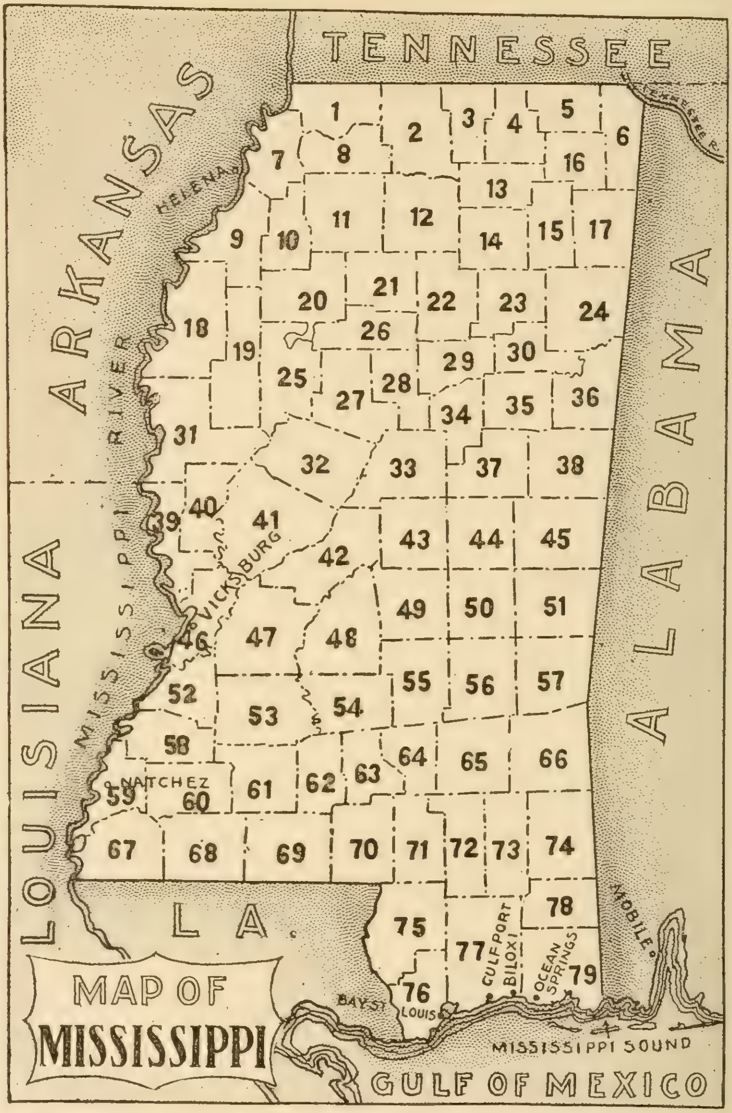
Dimensions. Length, north and south, 400 miles; width, east and west, 350 miles.

STATE AND THE 79 COUNTIES OF MISSISSIPPI

With Their Boundaries

Location and Population of MISSISSIPPI COUNTIES

Location	COUNTIES	Pop. 1910
1	De Soto	23,130
2	Marshall	26,796
3	Benton	10,245
4	Tippah	14,631
5	Alcorn	18,159
6	Tishoningo	13,057
7	Tunica	18,646
8	Tate	19,714
9	Coahoma	34,217
10	Quitman	11,593
11	Panola	31,274
12	Lafayette	21,883
13	Union	18,997
14	Pontocock	19,688
15	Lee	28,894
16	Prentiss	16,931
17	Itawamba	14,526
18	Bolivar	84,905
19	Sunflower	28,787
20	Tallahatchie	29,078
21	Yalobusha	21,519
22	Calhoun	17,726
23	Chickasaw	22,846
24	Monroe	35,178
25	Leflore	36,290
26	Grenada	15,727
27	Carroll	23,139
28	Montgomery	17,706
29	Webster	14,853
30	Clay	20,203
31	Washington	48,933
32	Holmes	39,088
33	Attala	28,851
34	Choctaw	14,857
35	Oktibbeha	19,676
36	Lowndes	30,703
37	Winston	17,139
38	Noxubee	28,503
39	Issaquena	10,560
40	Sharkey	15,694
41	Yazoo	43,672
42	Madison	33,505
43	Leake	18,298
44	Neshoba	17,980
45	Kemper	20,348
46	Warren	37,488
47	Hinds	63,726
48	Rankin	23,944
49	Scott	16,723
50	Newton	28,035
51	Lauderdale	46,919
52	Claiborne	17,403
53	Copiah	35,914
54	Simpson	17,201
55	Smith	16,603
56	Jasper	18,498
57	Clarke	21,630
58	Jefferson	18,221
59	Adams	25,265
60	Franklin	15,193
61	Lincoln	28,597
62	Lawrence	13,080
63	Jefferson Davis	12,869
64	Covington	16,909
65	Jones	29,885
66	Wayne	14,709
67	Wilkinson	18,075
68	Amite	22,954
69	Pike	37,272
70	Marion	15,599
71	Lamar	11,741
72	Forrest	20,722
73	Perry	7,685
74	Greene	6,050
75	Pearl River	10,593
76	Hancock	11,207
77	Harrison	34,658
78	George	6,599
79	Jackson	15,459
	Total	1,797,114



MISSISSIPPI TOWNS WITH 1910 POPULATIONS.

Towns	*Loca.*	*Pop.*
A		
Abbeville	12	243
*Aberdeen	24	3,708
Ackerman	34	1,398
Adair	27	250
Agricultural College	35	206
Airey	77	709
Albertson	65	328
Alcorn	52	690
Alligator	18	260
Amory	24	2,122
Anguilla	40	500
Arbo	64	206
Arcadia	39	390
Arcola	31	512
Arkabutla	8	217
Artesia	36	535
B		
Baldwyn	15	787
Banks	7	309
Bassfield	63	344
*Batesville	11	774
Baxterville	71	200
*Bay St. Louis	76	3,388
Bay Springs	56	836
Beaumont	73	250

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Mississippi Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Beauregard	53	240
Belden	15	220
Belleprairie	41	350
Belmont	6	367
Belzoni	31	1,059
Benoit	18	412
Benton	41	200
Beulah	18	369
Biloxi	77	8,049
Binnsville	45	590
Blue Lake	20	290
Blue Mountain	4	650
Bogue Chitto	61	841
Bolton	47	632
Bond	77	536
Bon Homme	72	308
*Booneville	16	1,337
Booth	39	250
Boyd	62	250
Boyle	18	444
*Brandon	48	720
Braxton	54	286
*Brookhaven	61	5,293
Brooklyn	72	260
Brookville	38	850
Bucatunna	66	421
Buena Vista	23	231
Burnsville	6	336
Byhalia	2	511
C		
Calhoun City	22	477
*Canton	42	3,929
Carriere	75	206
*Carrollton	27	608
Carrolton Sta.	27	390
*Carthage	43	315
Cedarbluff	39	216
Centerville	67	865
Chancy	10	250
*Charleston	29	1,834
Chritton	9	250
Chunky	50	280
*Clarksdale	9	4,079
*Cleveland	18	1,001
Clinton	47	767
Cloverhill	9	277
Coahoma	9	211
*Coffeeville	21	421
Coldwater	8	774
*Collins	64	2,581
*Columbia	70	2,029
*Columbus	36	8,988
Como	11	905
*Corinth	5	5,020
Courtland	11	304
Craig	41	506
Crawford	36	396
Creek	57	360
Crenshaw	11	358
Cross Roads	78	358
Crystal Springs	53	1,343
D		
Darden	13	260
*Decatur	50	283
*De Kalb	45	250
Derma	22	383
De Soto	57	236
Dlo	54	284
Doddsville	19	208
Drew	19	278
Dry Grove	47	250
Duck Hill	28	490
Duncan	18	284
Durant	32	1,881
E		
Estabuchie	65	460
Eastside	79	819
Ecru	14	475
Eddiceton	60	350
Edinburg	43	259
Edwards	47	600
Elarbee	77	250
*Ellisville	65	2,446
Elwood	57	208
Endville	14	450
Enterprise	57	877
Epps	72	282
Estabutchie	65	631
Ethel	33	466
Eupora	29	896
F		
Fannin	48	200
Farrell	9	250
*Fayette	58	775
Fenwick	59	206
Fernwood	69	209
Flora	42	747
Florence	48	260
*Forest	49	1,136
French Camps	34	220
*Friar Point	9	875
*Fulton	17	206
G		
Gandai	64	232
Geeville	16	290
Georgetown	53	560
Gibson	24	260
Gillsburg	68	266
Glen Allan	31	250
Glendora	20	207
Gloster	68	1,486
Golden	6	209
Good Hope	32	292
Goodman	32	630
Grand Gulf	52	266
Graysport	26	1,409
Greengrove	9	496
*Greenville	31	9,610
*Greenwood	25	5,836
*Grenada	26	2,814
*Gulfport	77	6,386
Gunnison	18	515
Guntown	15	330
H		
Hamburg	60	234
Handsboro	77	907
Harriston	58	253
*Hattiesburg	72	11,733
*Hazlehurst	53	2,056
Heidelberg	56	477
Hermanville	52	369
*Hernando	1	660
Hickory	50	666
Hickory Flat	3	261
Highlandale	25	298
Hiwannee	66	217
Hollandale	31	481
*Holly Springs	2	2,192
Hollywood	7	360
Horn Lake	1	206
Houlka	23	389
*Houston	23	1,406
Howison	77	490
I		
Inda	77	369
*Indianola	19	1,098
Iverness	19	221
Isola	31	478
Ittabena	25	1,427
*Iuka	6	1,221
J		
Jackson (capital)	47	21,262
Jacobs	58	590
Jonestown	9	367
K		
Kilmichael	28	380
Kipling	45	269
Kirkville	17	509
*Kosciusko	33	2,385
L		
Lake	49	429
Lakeshore	76	260
Lambert	10	573
Latonia	79	260
Lauderdale	51	599
Laurel	65	8,465
Lawrence	50	208
*Leakesville	74	466
Leland	31	1,547
Lena	43	200
Leota Landing	31	369
*Lexington	32	2,428
*Liberty	68	556
Little Springs	60	290
Long	31	396
Long Beach	77	1,026
Longtown	11	250
Lorena	55	266
Louin	56	523
*Louisville	37	1,181
*Lucedale	78	797
Lumberton	71	2,122
Lyon	9	223
Lytal	16	209
M		
Maben	35	539
McComb	69	6,237
McCool	33	422
McHenry	77	627
McLain	74	250
McLaurin	72	506
McNair	58	266
McNeill	75	360
*Macon	38	2,424
Madison Station	42	323
Magee	54	685
*Magnolia	69	1,823
Mantee	29	222
Marathon	31	308
Marie	19	290
Marks	10	670
Matagorda	9	560
Mathiston	29	576
*Mayersville	39	269
*Meadville	60	269
*Mendenhall	54	606
*Meridian	51	23,285
Merigold	18	241
Merrill	78	328
Midnight	41	208
Millard	75	296
Minter City	25	306
Mississippi City	77	566
Mize	55	321
*Monticello	62	450
Montrose	56	427
Moorhead	19	505
Morton	49	374
Moselle	65	241
Moss Point	79	3,054
Mound Bayou	18	537
Mountain	78	208
Mount Carmel	63	290
Mount Olive	64	1,077
Muldon	24	309
Myrtle	13	255
N		
Napanee	31	362
*Natchez	59	11,791
Neshoba	44	290
Nettleton	15	733
*New Albany	13	2,032
*New Augusta	73	469
New Houlka	23	650
Newton	50	1,875
Nicholson	75	348
Norfield	61	889
Northcarrollton	27	302
N. Greenwood	25	269
Noxapater	37	311
O		
Oakland	21	351
Oak Vale	62	296
Ocean Springs	79	1,472
*Okolona	23	2,584
Olive Branch	1	212
Ora	64	462
Osyka	69	824
Ovett	65	383
*Oxford	12	2,014
P		
*Pascagoula	79	3,379
Pass Christian	77	2,458
Pearlhaven	61	499
Pearlington	76	306
Pelahatchee	48	943
Percy	31	266
Perkinston	77	350
Perthshire	18	496
Pheba	30	283
Philadelphia	44	1,209
Philipp	20	269
Pickayune	75	846
Pickens	32	619
Pinebur	70	250
Pinola	54	241
*Pittsboro	22	249
Pleasant Hill	1	2,065
*Pontotoc	14	1,277
*Poplarville	75	1,272
*Port Gibson	52	2,252
Potosi	41	506
Potts Camp	2	312
Prairie Point	38	250
*Prentiss	63	640
Pulaski	49	289
*Purvis	71	724
Q		
*Quitman	57	950
R		
*Raleigh	55	262
*Raymond	47	579
Richburg	71	266
Richton	73	1,250
Rienzi	5	434
*Ripley	4	767
Robinsonville	7	308
Rodney	58	338
*Rolling Fork	40	809
*Rosedale	18	1,103
Rose Hill	56	390
Roxie	60	294
Ruleville	19	451
Rural Hill	37	250
S		
Sallis	33	247
Saltillo	15	306
Sandersville	65	604
Sanford	64	390
*Sardis	11	1,406
Saucier	77	255
Schlater	25	250
Scooba	45	322
Seminary	64	526
*Senatobia	8	1,278
Shannon	15	564
Shaw	18	871
Shelby	18	645
Sherman	14	353
Shubuta	57	1,168
Shuqualak	38	636
Sidon	25	391
Silver City	41	341
Silver Creek	62	544
Silver Springs	4	390
Spanish Fort	40	209
Standing Pine	43	266
*Starkville	35	2,698
State Line	66	363
Stonewall	57	1,069
Stringer	56	267
Sturgis	35	321
Summit	69	1,471
*Sumner	20	364
Sumral	71	2,064
Sunflower	19	200
Sylvarena	55	290
T		
Taylorsville	55	623
Tchula	32	478
Terry	47	473
Tishomingo	6	212
Toccopola	14	233
Toomsuba	51	300
Trenton	55	200
*Tunica	7	555
*Tupelo	15	3,881
Tutwiler	20	410
Tyler	75	200
Tylertown	69	797
U		
Union	50	693
Utica	47	572
V		
*Vaiden	27	713
Vardaman	22	439
Vernal	74	200
Verona	15	558
Vestry	79	250
*Vicksburg	46	20,814
Vosburg	56	209
W		
Walls	1	206
Walnut Grove	43	208
Warrenton	46	200
*Water Valley	21	4,275
Waveland	76	554
*Waynesboro	66	625
Webb	20	292
Weir	34	220
Wesson	53	2,024
West	32	276
West Pascagoula	79	308
*West Point	30	4,864
Whitesand	58	390
Wiggins	77	980
Winchester	66	350
*Winona	28	2,512
Wisdom	77	260
Wisner	55	626
*Woodville	67	1,233
Y		
Yazoo City	41	6,796
Z		
Zilpha	33	200
Zion	43	269
Zion Hill	68	506

Opportunities in Agriculture and Varied Enterprises

MISSISSIPPI

Having a Soil and Climate Especially Favorable for Growing Cotton.—Figures Showing Profits.

Should the land-seeker wish to engage in the production of **one** general crop there is probably **none more sure** than cotton in a region favorable for its growth. There are **a few essentials** necessary in the production of cotton, among them being a **rich alluvial soil**, a **temperature favorable** for growth and **rainfall sufficient** to supply the necessary moisture.

THE CLIMATE OF MISSISSIPPI.

The average annual temperature in Mississippi is 65.57. The highest of **summer is 90** and the lowest of winter is **18 above** zero. The average annual rainfall at Natchez is **53.55** inches; along the coast it is **64** inches.

The valley areas of the **northern section,** and the uplands of central Mississippi, are fertile, while those of other parts of the state are often **inferior** in quality. If the individual is going into **the business** of raising cotton and has selected **Mississippi** as the state in which to engage in that vocation, he will find that soil, climate and rainfall **all combine** here to make that crop a success; but it would be only **safe** for the person intending to **purchase land** for that purpose to visit this state, **go among** the cotton raisers and carefully investigate **before investing** any money in land for that purpose.

As a rule, cotton continues very uniform in price. While price fluctuates somewhat, it has averaged about **10 cents a pound** during the past seven years. During 1906 the price **varied** from 9½ cents to 12¼ cents per pound.

A STATEMENT OF COST AND PROFITS.

Cost of Production.. The following statement of the cost of production and the **proceeds from a cotton crop** in 1889-90 on a 70-acre farm of Col. J. M. Thornton, Talladega, Ala., is worthy of **careful study** of those who think of engaging in the business of cotton culture. Of course these figures would **vary considerably**, depending upon natural fertility of soil, cost of fertilizing material, expense of labor, accessibility to market, and other conditions, but this table gives **something of an idea** of cost of production in average years.

COST AND PROFIT OF RAISING COTTON

On 70 Acres, Yielding 28,116 Pounds of Lint Cotton which Sold at 9¼ Cents Per Pound.

Man and mule labor in preparing bedding and putting in fertilizers	$150.50
3½ tons phosphate (as fertilizer)	67.50
3½ tons cottonseed meal (as fertilizer)	....
Man and mule labor plowing and cultivating	126.00
Hoeing	136.50
Picking	421.75
Logging and ties	49.50
Ginning (5 per cent of yield equals 1,458 pounds at 9¼ cents)	134.86
Seed for planting (140 bushels at 15 cents per pound)	21.00
Wear and tear of implements	15.00
Overseeing	50.00
One-fourth of cotton crop chargeable as rent	650.18
Hauling to market	12.00
Total	$1,905.29

YIELD AND PROCEEDS OF COTTON CROP.

56 bales, weighing 28,116 pounds lint cotton, averaging 9¼ cents	$2,600.73
1,848 bushels seed at 15 cents per pound	277.20
Total	$2,877.93
Cost of production	$1,905.29
Profit on 70 acres	$972.64

Dividing the $972.64 by 70 gives $13.89, the profit per acre on raising cotton at these prices. Thus the profit on a 100-acre tract would be $1,389, and a 200-acre cotton farm would be $2,778.

CENTER OF COTTON PRODUCTION IN RECENT YEARS.

The center of cotton production in the United States has been recently in Mississippi, about 20 miles northeast of Canton, in Madison County, and with the natural fertility of soil here, fitting it for **cotton raising**, it is probable that cotton can be raised in this state with **greater profit** than elsewhere, which will be determined by the land-seeker when he investigates cotton raising conditions in Mississippi.

Cotton is a field crop and, like wheat, oats or corn, must be classed with those field productions which require a good deal of space in order to yield large farm profit. There are **certain valleys** in the state, like the Yazoo, which is overflowed in very high water, and enriched by the alluvial deposits, that require but **very little fertilization in the production of any crops thereon.** These valleys are natural cotton lands, which land-seekers should examine.

IF COTTON WERE MADE THE PRINCIPAL CROP.

The crops of Mississippi are considerably diversified. Thus in one average recent year the oat crop was 1,671,919 bushels; wheat, 28,285 bushels, and corn, 30,027,569 bushels.

Of the cotton crop there were 1,275,000 bales. As there are **466 pounds** in a bale of cotton, there were 594,150,000 pounds in that crop, which, multiplied by 9¼ cents, **the lowest price per pound** for cotton that year, would make the income to the State of Mississippi **$54,958,875** that year for her cotton crop.

As there is but a comparatively small population at present in this state, 12,000,000 acres yet covered with forests, we can imagine when the population is full up to the capacity of the state and the force of help is sufficient to cultivate **all** the soil, that the revenue from cotton in this state will be **immense.**

But while Mississippi is essentially an agricultural state it is giving a good deal of attention to manufacturing, as shown in the fact that in 1906, an average year, there were $50,256,309 invested in manufactures, 38,690 wage earners were employed, to whom was paid $14,819,034, the manufactured product of the state being worth $57,451,445.

FRUIT, FISH AND OYSTERS.

The Gulf Coast of the State which extends for a **distance of 90 miles** on the borders of the Gulf of Mexico is attracting a great deal of attention for **several reasons.** First, here is a **warm** sandy loam soil, resting on a clay subsoil, in which all vegetables and fruits **yield abundantly.** Second, with warm climate and 62 inches of annual rainfall they can grow **three crops a year** on the same land. Thus, planting Irish potatoes in January, the crop is off in time to plant corn in April and the corn is off in time to plant sweet potatoes in July, which are harvested in time to allow a crop of hay or cow peas to be grown, to plow in and fertilize the land for the **next year.**

The waters of the Gulf, along the Mississippi coast line, grow **thousands** of bushels of oysters. One cannery at Biloxi gives employment to **2,500 workmen** nine months in the year canning oysters and other **shell fish.**

The fish canning and oyster industry on the Gulf coast is very great and steadily growing in importance.

DELIGHTFUL BREEZE FROM THE GULF.

A steady breeze blows in upon the land here making the **days** pleasant and the **nights** cool in summer. Thus the Gulf coast is **growing** in popularity as a **summer** resort. As a home for the winter months it is and has for many years attracted thousands of people from the north. Gulfport, Bay St. Louis, Pass Christian, Biloxi, Ocean Springs and other points are **widely known** as health and pleasure resorts.

Mississippi Opportunities in Agriculture and Varied Enterprises

A Region of Delightful Winter Resorts on the Gulf Coast.

Thousands of people are drifting **down** to this charming Gulf coast to make their homes in the delightful climate here, intending to spend their **remaining years** in the growing of fruit for profit and partly as a pastime.

Many testimonials are published of people who clear a profit on their crops here of **$250 per acre,** their productions including early grown potatoes, sweet corn, strawberries, grapes, Satsuma oranges, soft shell pecans, sweet potatoes, sugar cane, melons, peaches and other fruits.

THE LUMBER BUSINESS A GREAT INDUSTRY.

This whole region adjoining the Gulf of Mexico has been, until recently, covered with a long leafed pine forest. The **rapid advance** in the price of lumber has caused the introduction of scores of sawmills. The land is being cleared of the forest, and the soil, a rich dark, sandy loam, resting on a clay subsoil, is found to be most **admirably adapted** to fruit raising.

Added to a warm soil in a warm climate, is an average of **five inches** of rain per month. This large amount of moisture prevents shortage of crops from drouth. While **one** crop of the season may be lessened by dry weather the **other** crops are not affected, and the **average** yield from the land is always about the same.

PRICE OF LAND IN SOUTHERN MISSISSIPPI.

Farm land along the Gulf coast is held at prices varying from $25 to $50 per acre, while **back a little** distance from the Coast the price ranges from $15 to $25.

TO SECURE EMPLOYMENT, GO SOUTH.

There is an intense cry continually going up from all the Gulf coast country for **more help.** More workmen are wanted in the fields, more in the **lumber district** and more in the canneries. The land seeker will do well to consider the advisability of getting a small farm on the Gulf Coast, applying thereon intensive cultivation, and while getting started assist other people who need help.

CONDENSED IMPORTANT FACTS RELATING TO MISSISSIPPI.

Altitude. Highest in the State at Forrest, in Marshall County.

Climate. Average annual January temperature at Vicksburg, 47 above; July, 82; highest, 101; lowest, 1 below. Annual rainfall, 55.7.

Dimensions. Extreme length of State, north and south, 340 miles; extreme width, east and west, 180 miles.

History. The Yazoo bottoms visited by De Soto, 1539; Joliet and Marquette, 1673; La Salle, 1682; settlement at Biloxi by Iberville, 1699; Nathez founded, 1716; ceded by France to England, 1763; Territory of Mississippi organized, 1798; territory including the five southern counties added to the State, 1811; admitted to the Union, 1817.

Between New Orleans and Mobile will be found a number of the most attractive winter resorts in the whole South. From Bay St. Louis, the first resort out of New Orleans, to Pascagoula, nearly fifty miles east, is an almost **continuous string of white cottages,** hotels and bungalows. The winter climate is delightfully invigorating and it would be difficult to select a locality better suited for rest or recreation. The population of Bay St. Louis is about 4,500, made up largely of people from New Orleans, who make daily trips to and from the city. The town, like other gulf coast resorts, has its **long shell drive upon the waterfront,** with magnificent live oaks and magnolias, while the pretty, substantial and gardened residences bespeak taste and prosperity for their owners. Boating, bathing and fishing facilities are unsurpassed.

PASS CHRISTIAN.

Pass Christian is the most pretentious, as well as the most popular, resort along the gulf coast. It is **one of the very old** towns of the United States and the second in population on the coast. With its seven miles of frontage on the gulf, and with **immense pine forests** behind it, it is an ideal place for the man or woman seeking rest and recuperation. It is exclusively a resort town, and the hotels will be found far above the average in size and excellence. The shell roads here are exceptionally smooth and well kept and make driving or automobiling a pleasure. A **nine-hole golf course** is kept in excellent condition. Mississippi Sound furnishes the finest yachting course in the South and very good fishing can be had during the late winter and early spring months.

GULFPORT.

Gulfport is a new, but distinctly modern, town. It is the principal seaport for sea-going vessels of the State of Mississippi and is the second lumber-shipping port in the country. It has **a fine harbor,** deep and roomy enough to accommodate ocean shipping for years to come. Beside boating, fishing and hunting there are **beautiful shell drives** along the beach and automobiles can be hired at reasonable rates. There are tennis courts and an excellent golf course. The hotel accommodations are among the best on the coast.

Four miles east of Gulfport is the old town of Mississippi City. It is in the midst of a great fruit-producing region, where **oranges, figs, peaches, pears and grapes** can be grown with but little effort.

Biloxi, the **oldest town on the coast,** the third in age in the United States, was founded by the French **in 1699.** It is the largest town between New Orleans and Mobile and is a substantial and **progressive little** city. There are some fine residences and hotels and shell drives along the ten-mile beach. The waters of the sound here are **alive with fish** and during the winter season quantities of oysters are canned and shipped to Northern and Eastern markets. Four miles west of Biloxi is Beauvoir, **where Jefferson Davis lived,** and now the home of aged and infirm Confederate veterans. Biloxi is a most delightful little city and an excellent place wherein to spend the winter season.

OCEAN SPRINGS.

Ocean Springs, so called from the **mineral springs** found in the town, is just across the bay from Biloxi. A fine shell drive extends **the entire three miles** of sound frontage. Nowhere on the coast can finer specimens of the famed live oaks be found. Under these, and with **full sweep of sea view** and salt breezes, nestle some attractive and tasteful homes and hotels.

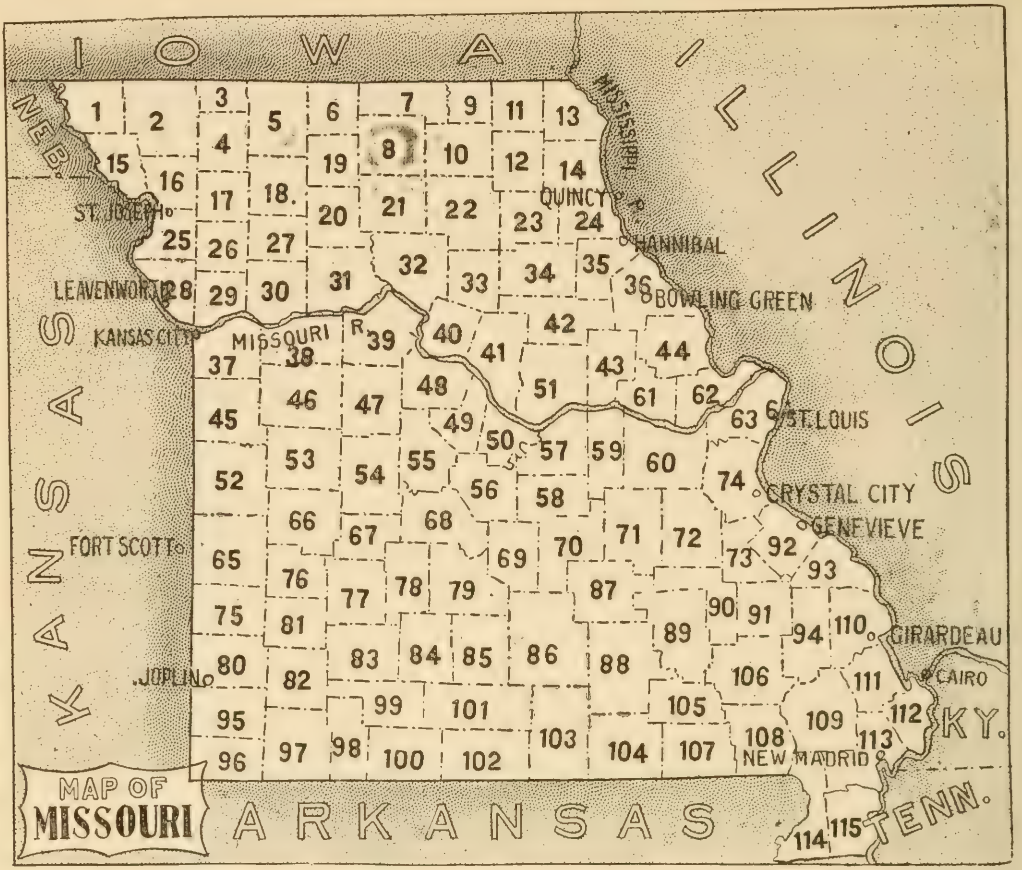
Sixteen miles east of Ocean Springs are the towns of West Pascagoula and Pascagoula. This is one of the greatest lumber manufacturing districts of the South and in addition, one of the best fishing points on the coast.

THE NATIONAL CEMETERY IN MISSISSIPPI.

The National Cemetery at Vicksburg, fronting the river and blending in to the northern end of the Military Park, although not of it, was established in 1865. Its originally beautiful natural site having thus had the benefit of time in which to be developed and appropriately softened and beautified into harmony with its sacred purpose, it stands today one of the most park-like and pleasingly impressive of all the national cemeteries. With the possible exception of Arlington Heights, none can compare with it in general beauty. It certainly is one of the most magnificent cemeteries ever devoted to the interment of the dead soldiers of any nation, and it is also (except Arlington) the largest of the eighty-two established and maintained by the General Government in honor of its valorous defenders. It contains the graves of 16,822 Union soldiers who lost their lives in and around Vicksburg during the civil war, of which the appalling number of 12,719 are "unknown." The cemetery is a masterpiece of landscape engineering, with delightful walks and drives, with ravines, terraces and plateaus, and with long avenues of trees, mostly Spanish oaks, supplemented with tropical plants and picturesque parterres of flowers. The grounds occupy what was once the sides and crest of a forbidding bluff overlooking the river, but which is now a most charming series of terraces, encircling a beautiful plateau from which is had a magnificent view, grand in extent and variety, including the serpentine course of the glittering river, its opposite shore fringed with verdant forest.

STATE AND THE 115 COUNTIES OF MISSOURI

With Their Boundaries



LOCATION AND 1910 POPULATIONS OF MISSOURI COUNTIES.

Loca.	*County*	*Pop.*
1	Atchison	13,604
2	Nodaway	28,833
3	Worth	8,007
4	Gentry	16,820
5	Harrison	20,466
6	Mercer	12,385
7	Putnam	14,308
8	Sullivan	18,598
9	Schuyler	9,062
10	Adair	22,700
11	Scotland	11,869
12	Knox	14,403
13	Clark	12,811
14	Lewis	15,514
15	Holt	14,539
16	Andrew	15,282
17	De Kalb	12,531
18	Daviess	17,605
19	Grundy	16,741
20	Livingston	19,453
21	Linn	25,253
22	Macon	30,868
23	Shelby	14,864
24	Marion	30,572
25	Buchanan	93,020
26	Clinton	15,297
27	Caldwell	14,605
28	Platte	14,429
29	Clay	20,302
30	Ray	21,451
31	Carroll	23,098
32	Chariton	23,503
33	Randolph	26,182
34	Monroe	18,304
35	Ralls	12,913
36	Pike	22,556
37	Jackson	283,522
38	Lafayette	30,154
39	Saline	29,448
40	Howard	15,653
41	Boone	30,533
42	Audrain	21,687
43	Montgomery	15,604
44	Lincoln	17,033
45	Cass	22,973
46	Johnson	26,297
47	Pettis	33,919
48	Cooper	20,311
49	Moniteau	14,375
50	Cole	21,957
51	Callaway	24,400
52	Bates	25,869
53	Henry	27,242
54	Benton	14,881
55	Morgan	12,863
56	Miller	16,717
57	Osage	14,283
58	Maries	10,088
59	Gasconade	12,847
60	Franklin	29,830
61	Warren	9,123
62	St. Charles	24,695
63	St. Louis	82,417
64	St. Louis City	687,029
65	Vernon	28,827
66	St. Claire	16,412
67	Hickory	8,741
68	Camden	11,582
69	Pulaski	11,483
70	Phelps	15,796
71	Crawford	13,576
72	Washington	13,378
73	St. Francois	36,748
74	Jefferson	27,878
75	Barton	16,747
76	Cedar	16,080
77	Polk	21,561
78	Dallas	13,181
79	Laclede	17,363
80	Jasper	89,673
81	Dade	15,613
82	Lawrence	25,583
83	Greene	63,831
84	Webster	17,873
85	Wright	18,315
86	Texas	21,485
87	Dent	13,245
88	Shannon	11,443
89	Reynolds	9,592
90	Iron	8,563
91	Madison	11,273
92	Genevieve	
93	Perry	14,898
94	Bollinger	14,576
95	Newton	27,136
96	McDonald	13,539
97	Barry	23,869
98	Stone	11,559
99	Christian	15,832
100	Taney	9,134
101	Douglas	16,664
102	Ozark	11,926
103	Howell	21,065
104	Oregon	14,681
105	Carter	5,504
106	Wayne	15,181
107	Ripley	13,099
108	Butler	20,624
109	Stoddard	27,807
110	C. Girardeau	27,621
111	Scott	22,372
112	Mississippi	14,557
113	New Madrid	19,488
114	Dunklin	30,328
115	Pemiscot	15,559
	Total	3,293,335

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Missouri Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
Adrian	52	929
Advance	109	621
Affton	63	650
Agency	25	429
Alba	80	1,296
*Albany	4	1,922
Alderney	63	225
Aldrich	77	650
Allendale	3	243
Allenton	63	250
Allenville	110	309
Alma	38	316
Altamont	18	270
Altenburg	93	279
*Alton	103	484
Amazonia	16	456
Amoret	52	307
Anderson	96	721
Anglum	63	306
Anniston	112	364
Appleton City	66	1,018
Arcadia	90	289
Archie	45	246
Arcola	81	309
Ardmore	22	500
Armstrong	40	574
Arrow Rock	39	336
Asbury	80	266
Ashburn	36	295
Ash Grove	83	1,075
Ashland	41	341
Ashley	36	409
Ashton	13	200
Atlanta	22	523
Augusta	62	297
Aurora	82	4,148
Austin	45	308
Auxvasse	51	411
*Ava	101	713
Avalon	20	509
B		
Bakerfield	102	270
Ballwin	63	509
Baring	12	379
Barnard	2	338
Bayouville	113	309
Beaufort	69	208
Bedford	20	266
Belgrade	72	250
Bell City	109	316
Bell	58	600
Bellflower	43	599
Belmont	112	200
Belton	45	922
*Benton	111	320
Benton City	42	233
Berger	60	306
Bernie	109	742
Bertrand	112	346
*Bethany	5	1,931
Bethel	23	235
Bevier	22	1,906
Billings	99	760
Birch Tree	88	497
Bird Point	112	406
Bismark	73	848
Blackburn	39	389
Black Jack	63	490
Blairstown	53	238
Bland	59	359
Blodgett	111	422
*Bloomfield	109	1,147
Blue Springs	37	561
Blythedale	5	345
Bogard	31	316
Bois D'Arc	83	200
Bolckow	16	376
*Bolivar	77	1,975
Bonfils	63	390
Bonne Terre	73	5,509
*Boonville	48	4,252
Bosworth	31	767
Bourbon	71	382
Bowen	46	206
*Bowling Green	36	1,585
Brandsville	40	502
Branson	100	706
Brashear	10	468
Braymer	27	1,027
Breckenridge	27	1,025
Brewer	93	200
Bronaugh	65	263
Brookfield	21	5,749
Brookline Sta.	83	306
Browning	21	629
Brownington	53	345
Brumley	56	209
Brunswick	32	1,606
Buckeye	112	298
Bucklin	21	790
Buckner	37	410
*Buffalo	78	820
Bunceton	48	788
Bunker	89	606
Burgess	75	249
Burlington Jct.	2	942
*Butler	52	2,894
C		
Cabool	86	789
Cainesville	5	887
Cairo	33	220
Calhoun	56	684
*California	49	2,154
Callao	22	526
Camden	30	477
Cameron	26	2,980
Canalon	113	297
Canton	14	2,218
Cape Girardeau	110	8,475
Cardwell	114	874
Carle Junction	80	1,115
*Carrollton	31	3,452
Carterville	80	4,539
*Carthage	80	9,483
*Caruthersville	115	3,655
*Cassville	97	781
Cedar City	51	208
Cedar Valley	100	306
Cement City	37	209
Center	35	510
Centertown	50	285
Centerview	46	499
*Centerville	89	560
Centralia	41	2,116
Chaffee	111	2,082
Chamois	57	649
*Charleston	112	3,144
Chilhowee	46	425
*Chillicothe	20	6,265
Chitwood	89	1,506
Chula	20	384
Clarence	23	1,337
Clark	33	390
Clarksburg	49	399
Clarksdale	17	416
Clarksville	36	912
Clarkton	114	682
Clearmont	2	263
Cleveland	45	280
Clever	99	348
Climax Springs	68	250
*Clinton	53	4,993
Clyde	2	368
Coffey	18	390
Cole Camp	54	910
College Mound	22	250
Collins	66	256
Coloma	31	200
*Columbia	41	9,692
Comet	81	544
Conception	2	290
Concordia	39	931
Connelsville	10	652
Conway	79	394
Cooter	115	309
Corder	38	649
Corning	15	252
Cottleville	62	225
Cowgill	27	363
Craig	15	621
Crane	98	1,002
Creighton	45	409
Creve Coeur	63	460
Crocker	69	569
Cross Timbers	67	506
Crowder	111	288
Crystal City	74	1,890
Cuba	71	616
Curryville	36	238
D		
Dadeville	81	401
Dalton	32	261
Darlington	4	352
Dawn	20	460
Dearborn	28	499
Deepwater	53	1,398
Deering	115	509
De Kalb	25	391
Denver	3	450
Des Arc	90	287
Desloge	73	2,509
DeSoto	74	4,721
Despeeres	63	669
De Witt	31	423
Dexter	109	2,322
Diamond	95	509
Dixon	69	715
Doe Run	73	956
*Doniphan	107	1,225
Dover	38	214
Downing	9	513
Drexel	45	512
Duncan	84	200
Dunnegan	77	250
Durham	14	268
Dykes	86	240
E		
Eagleville	5	330
East Lynne	45	277
Easton	25	275
East Prairie	112	1,206
Edgerton	28	534
Edina	12	1,562
Edinburg	19	200
Edna	111	1,209
Eldon	56	1,999
Eldorado Springs	76	2,503
Ellington	89	508
Elliott	33	208
Ellsinore	105	350
Elmer	22	512
Elmo	2	342
Elsberry	44	1,018
Elvins	73	2,071
*Eminence	88	480
Eolia	36	343
Essex	109	548
Esther	73	880
Ethel	22	423
Eugene	50	195
Eureka	63	560
Everton	81	522
Ewing	14	327
Excelsior Springs	29	3,906
Exeter	97	375
F		
Fairfax	1	666
Fairmont	13	360
Fair Play	77	421
Fairport	17	259
Fairview	95	308
Farber	42	305
*Farmington	73	2,613
*Fayette	40	2,586
Federal	73	499
Festus	74	2,550
Fillmore	16	232
Fisk	108	808
Flat River	73	5,112
Fleming	30	590
Flemington	77	250
Florida	34	209
Florisant	53	765
Foley	44	227
Fordland	84	202
Forest City	15	534
Forest Park	63	475
Foristell	62	250
Fornfelt	111	1,209
Fortuna	49	203
Foster	52	318
Frankclay	73	350
Frankford	36	793
Franklin Junction	40	260
*Fredericktown	91	2,632
Freeburg	57	331
Freeman	45	251
Freistatt	82	250
French Village	73	220
Frisco	109	209
Fruitland	110	225
Fulton	51	5,228
G		
*Gainesville	102	290
*Galena	98	353
Gallatin	18	1,825
Galt	19	583
Garden City	45	713
Gentry	4	226
Gentryville	4	250
Gerald	60	225
Gideon	113	702
Gilliam	39	299
Gilman City	5	527
Gilman City	5	537
Glasgow	40	1,507
Glendale	63	808
Glenwood	9	375
Golden City	75	882
Gower	26	370
Graham	2	361
Granby	95	2,442
Grandin	105	1,500
Grand Pass	39	200
Grandview	37	250
Graniteville	90	846
*Grant City	3	1,207
Graphite	106	266
Gray Summit	60	229
Green Castle	8	454
Green City	8	844
*Greenfield	81	1,434
Green Ridge	47	436
Greentop	9	275
*Greenville	106	914
Greenwood	37	306
Gregg	95	490
Guilford	2	207
H		
Hale	31	581
Hallard	30	275
Hallsville	41	200
Hamburg	62	296
Hamilton	27	1,761
Hannibal	24	18,341
Hardin	39	635
Harlem	29	250
Harris	8	355
*Harrisonville	45	1,947
Hartshorn	86	250
*Hartville	85	507
Harviell	108	201
Harwood	65	208
Hawk Point	44	299
Hayti	115	1,057
Helena	16	266
Hematite	74	306
Hedrickson	108	200
Henrietta	30	443
*Herman	59	1,592
*Hermitage	67	360
Hibbard	112	1,243
Hickman Mills	37	220
Higbee	33	1,215
Higginsville	33	2,628
High Hill	43	360
*Hillsboro	74	261
Hillside	63	250
Holcomb	114	279
Holden	16	2,007
Holland	115	273
Holliday	34	262
Holstein	61	402
Holt	29	336
Hopewell Academy	61	200
Hopkins	2	909
Hornersville	114	390
Hough	113	250
*Houston	86	644
Houstonia	47	349
Hughesville	47	290
Humansville	77	913
Hume	52	514
Humphreys	8	282
Hunnewell	23	406
Hunterville	109	225
*Huntsville	33	2,247
Hurdland	12	322
I		
Iantha	75	250
Iberia	56	428
Idalia	109	200
Illmo	111	976
*Independence	37	9,859
Irondale	72	338
*Ironton	90	721
J		
*Jackson	110	2,105
Jacksonville	33	290
Jameson	18	358
Jamesport	18	621
Jamestown	49	305
Jane	96	202
Jasper	80	644
Jefferson Barracks	63	802
JEFFERSON CITY	50	11,850
Jeffreys	37	260
Jennings	63	800
Jericho Springs	76	395
Jerome	70	106
Jonesburg	43	456

Missouri Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Joplin	80	32,078
Josephville	62	206
K		
*Kahoka	13	1,818
*Kansas City	37	248,381
Kearney	29	631
*Kennett	114	3,033
Keota	22	750
*Keytesville	32	963
Kidder	27	306
Kimmswick	74	235
King City	4	966
*Kingston	27	535
Kingsville	46	238
Kinloch	63	350
*Kirksville	10	6,347
Kirkwood	63	4,171
Knob Lick	73	209
Knobnoster	46	670
Knobview	70	265
Knox City	12	395
Koeltztown	57	250
L		
La Belle	14	1,017
Laclede	21	740
Laddonia	42	614
La Due	53	225
La Grange	14	1,360
*Lamar	75	2,346
Lamonte	47	684
*Lancaster	9	964
La Plata	22	1,606
Laredo	19	738
Larussell	80	261
Latham	49	246
Lathrop	26	1,138
Lawson	39	604
Leewood	73	708
Leasburg	71	200
*Lebanon	79	2,430
Lecoma	87	200
Leeper	106	590
Lees Summit	37	1,455
Leeton	46	420
Le May	63	340
Leslie	60	208
Lesterville	89	250
Lewis Station	52	220
Lewistown	14	405
*Lexington	38	5,242
Lexington Junction	30	380
Liberal	75	826
*Liberty	29	2,980
Licking	86	350
Lilbourne	113	484
Lincoln	54	336
Linden	29	260
*Linn	57	482
*Linn Creek	68	435
*Linneus	21	882
Livonia	7	250
Lock Spring	18	225
Lockwood	81	961
Louisiana	36	4,454
Lowry City	66	462
Lucerne	7	264
Ludlow	20	306
Lutesville	94	551
M		
McFall	4	385
*Macon	22	3,584
Madison	31	638
Maitland	15	736
Malden	114	2,116
Malta Bend	39	399
Manchester	63	509
Mansfield	85	477
Maplewood	63	4,976
*Marble Hill	94	313
Marceline	21	3,920
Marionville	82	1,272
Marquand	91	330
*Marshall	39	4,869
*Marshfield	84	1,193
Marston	113	258
Marthasville	61	360
Martinsburg	42	436
*Maryville	2	4,762
Marzolf	36	262
Mascot	83	200
Matthews	113	237
*Maysville	17	1,051
Mayview	38	308
Maywood	14	250
Meadville	21	580
Mehlville	63	340
*Memphis	11	1,984
Mendon	32	408
Mendota	7	808
Mercer	6	522
Merchants	64	333
Merwin	52	209
Meta	57	399
Metz	65	240
*Mexico	42	5,939
Miami	39	431
Middletown	43	323
Midland	63	306
*Milan	8	2,191
Milford	75	250
Miller	82	343
Mill Grove	6	275
Mill Spring	106	225
Mindenmines	75	591
Mine La Motte	91	408
Mineral Paint	72	290
Mirabile	27	250
Missouri City	29	559
Moberly	33	10,923
Mokane	51	646
Monarch	63	250
Monett	97	4,177
Monroe City	34	1,945
Montgomery City	43	1,789
*Monticello	14	283
Montrose	53	667
Mooresville	20	205
Morehouse	113	1,636
Morley	111	495
Morrison	59	257
Morrisville	77	360
Moscow Mills	44	395
Mound City	15	1,575
Moundville	65	247
Mountain Grove	85	1,722
Mountain View	103	552
Mount Leonard	39	200
Mount Moriah	5	350
Mount Pleasant	63	500
*Mount Vernon	82	1,161
N		
Naylor	107	406
Neck	80	528
Neelyville	108	241
Nelson	39	480
*Neosho	95	3,661
Nettleton	27	290
*Nevada	65	7,176
Newark	12	217
New Bloomfield	51	309
Newburg	70	932
New Cambria	22	387
New Florence	43	424
New Frankfort	39	250
New Franklin	40	794
New Hampton	5	456
New Haven	60	855
*New London	35	942
*New Madrid	113	1,882
New Melle	62	250
New Offenburg	92	350
Newtonia	95	293
Newton	8	261
Niangua	84	250
Nichols	83	202
Nixa	99	276
Noel	96	320
Norbourne	31	1,241
Normandy	63	200
Norwood	85	250
Novelty	12	232
Novinger	10	1,711
O		
Oak Grove	37	641
Oak Ridge	110	256
Oakville	63	509
Oakwood	24	466
Odessa	38	2,531
O'Fallon	62	690
Old Mines	72	406
Old Monroe	44	251
Old Orchard	63	2,500
Olean	56	214
Olivette	63	390
Oran	111	1,023
*Oregon	15	1,002
Oronogo	80	1,912
Orrick	30	435
Osage City	50	220
Osborn	17	360
Osceola	66	1,114
Osgood	8	204
Otterville	48	453
Overland	63	860
Owenville	59	677
Oxley	107	209
*Ozark	99	813
P		
Pacific	60	1,418
*Palmyra	24	2,168
Panama	65	490
*Paris	34	1,474
Parkville	28	766
Parma	113	903
Parnell	2	433
Pattonsburg	18	1,041
Paynesville	36	366
Peculiar	45	205
Perry	35	895
*Perryville	93	1,708
Phillipsburg	79	266
Pickering	2	264
Piedmont	106	1,154
Pierce City	82	2,043
Pilot Grove	48	654
Pilot Knob	90	445
Pine Lawn	63	200
*Pineville	96	500
*Platte City	28	763
Platt City Station	28	209
Plattonsburg	18	1,044
*Plattsburg	26	1,650
Pleasant Hill	45	2,065
Pleasant Hope	77	308
Pocahontas	110	239
Pollock	8	292
Polo	27	526
Pomona	103	222
Ponce de Leon	98	250
*Poplar Bluff	108	6,916
Portage Des Sioux	62	218
Portageville	113	287
Portland	51	275
*Potosi	72	772
Powersville	7	562
*Princeton	6	1,385
Prosperity	80	1,062
Purcell	80	994
Purdin	21	337
Purdy	97	459
Puxico	109	814
Q		
Queen City	9	701
Quitman	2	230
Qulin	108	590
R		
Ravanna	6	251
Ravenwood	2	341
Raymore	45	218
Rayville	30	239
Rea	16	210
Readsville	51	2,065
Reeds	80	298
Reeds Spring	98	309
Reger	8	250
Rembert	85	250
Renick	33	213
Republic	83	884
Reynolds	89	250
Richards	65	303
Rich Hill	52	2,755
Richland	69	884
*Richmond	30	3,664
Ridgeway	5	841
Ritchie	95	250
Rocheport	41	434
Rochester	16	200
*Rockport	1	1,053
Rockville	52	566
Rocky Comfort	96	406
Rogersville	84	650
*Rolla	70	2,261
Rombauer	108	299
Rosebud	59	266
Rosendale	16	359
Rothville	32	245
Rushville	25	566
Russellville	50	335
Rutledge	11	418
S		
Saint Clair	60	397
*Saint Charles	62	9,437
*Sainte Genevieve	92	1,967
Saint Francois	73	1,400
Saint James	70	1,100
*Saint Joseph	25	77,403
*Saint Louis	64	687,029
Saint Marys	92	702
Saint Paul	62	200
Saint Peters	62	269
Salem	87	1,796
Salem	18	349
Salisbury	32	1,834
Sarcoxie	80	1,311
*Savanna	16	1,583
Savoy	72	600
Schell City	65	562
*Sedalia	47	17,822
Seligman	97	409
Senath	114	1,026
Seneca	95	981
Seymour	81	590
Shelbina	23	2,174
Shelbyville	23	685
Sheldon	65	528
Sheridan	3	409
Sibley	37	200
Sikeston	111	3,327
Silex	44	276
Skidmore	2	562
Slater	39	3,238
Sligo	87	309
Smithfield	80	509
Smithton	47	346
Smithville	29	680
South Gorin	11	746
South Greenfield	81	274
South West City	96	488
Sparta	99	271
Spickard	19	638
Spoonerville	114	241
*Springfield	83	35,201
Spurgeon	95	250
Stahl	10	390
Stanberry	4	2,121
Steel	115	506
*Steelville	71	773
Stewartsville	17	543
*Stockton	76	590
Stotts City	82	546
Stoutland	68	250
Stoutsville	34	315
Stover	55	386
Strafford	83	300
Strasburg	45	350
Stratmann	63	600
Sturgeon	41	663
Sugar Creek	37	500
Sullivan	60	934
Sulphur Springs	74	260
Summersville	86	236
Sumner	32	394
Sweet Springs	39	1,122
Syenite	73	206
T		
Tarkio	1	1,966
Tebbetts	51	260
Thayer	104	1,613
Tina	31	304
Tipton	49	1,273
*Trenton	19	5,656
Trimble	26	222
Triplett	32	473
*Troy	44	1,120
Truxton	44	275
Turney	26	212
*Tuscumbia	56	285
Tuxedo	63	860
U		
*Union	60	934
Union Star	17	388
*Unionville	7	2,115
University	64	2,417
Urich	53	487
Utica	20	511
V		
Valley Park	63	1,490
*Van Buren	105	411
Vandalia	42	1,595
Vanduser	111	388
Verona	82	415
*Versailles	55	1,593
Vichy	58	216
*Vienna	58	312

Missouri Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
W		
Wakenda	31	279
Walker	65	364
Walnut Grove	83	599
Warren	24	299
*Warrensburg	46	4,689
*Warrenton	61	795
*Warsaw	54	824
Washburn	97	219
Washington	60	3,671
Watson	1	245
Wayham	55	777
Wayne	97	384
*Waynesville	69	257
Weaubleau	67	347
Webb City	80	11,817
Webster Groves	64	7,081
Wellington	38	558
Wellston	63	7,312
Wellsville	43	1,164
Wentzville	62	539
Westalton	62	299
Westboro	1	333
Weston	28	1,119
Westphalia	57	321
*Westplains	103	2,914
Wheatland	67	399
Whiteoak	114	251
Whitesville	16	225
Whitewater	110	251
Whitham	32	250
Whiting	112	242
Wilby	108	200
Williamstown	14	214
Williamsville	106	477
Willow Springs	103	1,411
Windsor	53	2,241
Winfield	44	422
Winona	88	444
Winston	18	257
Worthington	7	290
Wright City	61	377
Wyaconda	13	481
Wylie	96	200
Z		
Zalma	94	208
Zincite	80	799

MISSOURI

Took Greatest Number of Prizes for Agricultural Production at the St. Louis Exposition in 1904.

A large amount of Missouri unimproved land is yet in the market at $2, $4 and $8 per acre. From our map and list of Missouri towns the reader can judge as to accessibility to markets and pretty nearly what land ought to be worth if good soil.

WON A GREAT NUMBER OF PRIZES.

That this is a superior State for the agriculturist is shown in the fact that at the World's Louisiana Purchase Exposition, in St. Louis, in 1904, Missouri was awarded, by international juries, a **greater number of prizes** for agriculture, horticulture, live stock and poultry products, than any other state in the nation. **In agriculture** were received **298 prizes,** in **horticulture,** 372; in **dairying,** 2; in **live stock,** 790; in **poultry,** 617.

From Henry County in 1904, of surplus products, there were shipped 54 different agricultural, horticultural, live stock, lumbering, poultry and other products, at an estimated value of $4,193,987.

And that was **only one** average County. The State, which is over seven times larger than Massachusetts, has 115 Counties.

MISSOURI CLIMATE.

In examination of our maps the **favorable location** of this State is seen. Not only is it in nearly the **exact center** of the United States, but the climate is especially **favorable** for the **growth** of every agricultural product which can be grown in this latitude.

The average annual temperature is 55 degrees. The winter is 33 degrees, and summer is 76 degrees. While in winter the thermometer sometimes gets **below** zero, and in the summer up among the **highest** figures, **these extremes** are of short duration, **not lasting** long enough to occasion any inconvenience or discomfort in any direction.

The winter as a whole is moderate and mild, with very little snow and no storm-locked periods, when it is with difficulty that the farmer can **keep up communication** with dwelling and stables, and much less with the outside world. On the contrary, cattle require very little stabling and only a **moderate amount** of feeding, in comparison with the amount of care necessary on a Northern farm. The summers are **no hotter** than in the more northern States. The heated periods are of longer duration, perhaps, but are a source of **very little** inconvenience, and **no loss** to the farmer, like the long winters at the North.

DISTRIBUTION OF RAINFALL.

Another element of a desirable climate for agricultural purposes to be taken into consideration is the **amount of rainfall** and its distribution throughout the different seasons. The **average** rainfall for the State is **41 inches.** It is least in winter and highest in summer. This avoids the drouths at the growing periods of crops.

Though this large amount of rainfall would seem to make an overabundance of moisture, the climate is a dry one, the heavy rains falling in a **short space** of time, leaving the sunshine almost continuously free to distribute heat. The universal reign of sunshine is one of the **marked features** of the Missouri climate which greatly affects the well-being of its inhabitants.

In facilities for carrying goods from the Missouri farms to markets this State is exceptionally favored. In addition to over 8,000 miles of railways are several navigable rivers, among them being the **two great streams,** the Mississippi, which borders the State for 470 miles, and the Missouri, which forms a part of the western boundary for nearly 200 miles, from the Iowa line **to Kansas City,** at which point it turns eastward, flowing across the State in a tortuous course for more than 250 miles to the Mississippi. These great **streams are navigable** at all times, except when obstructed by ice. The Osage, one of the affluents of the Missouri, is navigable for small boats **half the year.** Several others are navigable for small boats in the early summer.

See these streams either land their cargoes at Kansas City or St. Louis, two of the grandest central distributing points in the United States.

St. Louis of itself has a vast commerce. Over **900 steamboats** leave here annually for the **Lower** Mississippi, **800 for the Upper** Mississippi, 200 for the Missouri, and 200 for the **eastern branches** of the Mississippi.

GREAT DISTRIBUTING POINT.

By virtue of central location, making it the natural distributing point for the great Southwest, St. Louis is **one of the few** greatest markets in the world. **While out of the Central Cotton** belt it ships annually over 600,000 bales of this staple, and handles yearly over **$2,000,000 worth** of furs. We mention these two articles because if it does so large a business in **cotton and furs** it is easy to see that its traffic in agricultural productions, native to this state and the immediate region, must be immense.

A FEW MISSOURI STATISTICS.

It should be remembered that Missouri is a young State; not a half of its resources are yet developed.

We could dilate upon various other resources and easily make a large volume relating to this State, but **space** does not permit. We advise the landseekers to carefully investigate the claims of Missouri. Its coal beds, which extend under one-half of the State, its iron, lead and zinc mines; wool, live stock, dairy, lumber and other interests.

1854. "St. Louis was a squalid border town."

We quote the above from Ingalls because of historical mention. "St. Louis, a squalid town" at that period. No sleeping cars and no dining cars in those days; the "American Desert" was a fact at that time and the railroad ended at Jefferson City.

What wonderful changes have taken place since Ingalls made his journey into the West, and how short the time! Men in middle years **recollect that period** distinctly. Will this State go forward as rapidly in the future as in the past? Why not? When Ingalls crossed Missouri at that time there were only 680,000 people in the State; less than the population today of St. Louis.

PROBABLE FUTURE OF MISSOURI.

It is no great stretch of imagination to suppose that Missouri will have a population, not far away in the future, as dense as Ohio, which will give her a vastly increased population over the present.

With a doubling of population there will be a great increase in land values throughout the State. The average price of improved land today is $25 per acre; unimproved is $10. Much improved is higher in price, while much is only $10, $15 and $20 per acre.

CONDENSED IMPORTANT FACTS RELATING TO MISSOURI.

Altitude. Highest in the State, Cedargap, Wright County, 1,683 feet high.

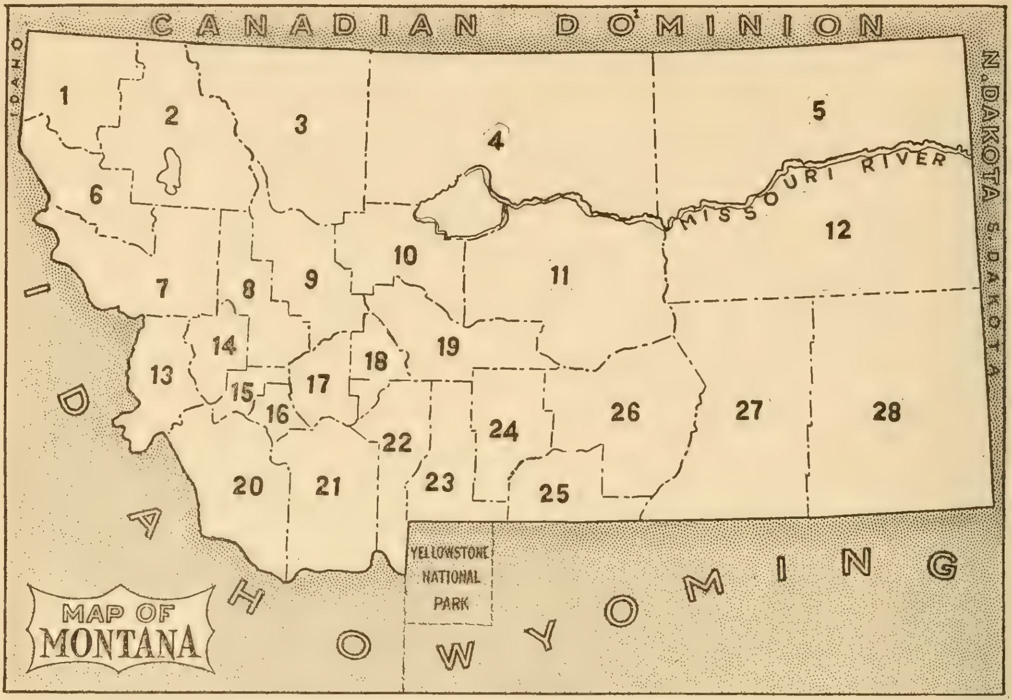
Climate. St. Louis: Average annual January temperature, 30; average annual July temperature, 79; highest temperature, 106; lowest temperature, 22 below zero. Average annual rainfall, 41.1 inches.

Dimensions. Extreme breadth, east to west, 300 miles; extreme length, north to south, 280 miles.

History. Lead mines attracted attention, 1720. Settlement at St. Genevieve, 1735. Territory ceded by France to Spain, 1762; retroceded by Spain to France, 1800; sold by France to the United States, 1803.

STATE AND THE 28 COUNTIES OF MONTANA

With Their Boundaries



LOCATION AND POPULATION OF MONTANA COUNTIES.

Loca.	*County*	*Pop.*
1	Lincoln	3,638
2	Flathead	18,785
3	Teton	9,516
4	Chouteau	17,191
5	Valley	13,620
6	Sanders	3,713
7	Missoula	23,596
8	Powell	5,904
9	Lewis & Clark	21,853
10	Cascade	28,633
11	Fergus	17,385
12	Dawson	12,725
13	Ravalli	11,066
14	Granite	2,942
15	Deerlodge	5,904
16	Silverbow	56,848
17	Jefferson	5,601
18	Broadwater	3,491
19	Meagher	4,190
20	Beaverhead	6,446
21	Madison	7,229
22	Gallatin	14,079
23	Park	10,731
24	Sweet Grass	4,029
25	Carbon	13,962
26	Yellowstone	22,944
27	Rosebud	7,905
28	Custer	14,123
	Total	376,053

Montana Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Aldridge	23	300
*Anaconda	15	10,134
Armstead	20	380
Augusta	9	290
B		
Baker	28	250
Basin	17	650
Bearcreek	25	302
Belgrade	22	561
Belt	10	1,158
Benton	4	1,024
Bigfork	2	408
*Bigtimber	24	1,022
*Billings	26	10,031
Bonner	7	760
*Boulder	17	955
*Bozeman	22	5,107
Bridger	25	514
Broadview	26	260
Busteed	24	3,013
*Butte	16	39,165
C		
Cascade	10	400
Centerville	16	2,506
Chinook	4	780
*Chouteau	3	406
Clancey	17	360
Clydepark	22	480
Coalville	25	260
Columbia Falls	2	601
Columbus	26	521
Conrad	3	888
Culbertson	5	528
Cut Bank	3	250
D		
Dagmar	5	208
*Deer Lodge	8	2,570
*Dillon	20	1,855
Dodson	4	220
Drummond	14	359
Dupuyer	3	360
E		
East Helena	9	1,208
Electric	23	490
Elliston	8	260
Eureka	1	693
F		
*Forsyth	27	1,395
*Fort Benton	4	1,001
Fort Shaw	10	375
Frenchtown	7	360
Fromberg	25	309
G		
Gardiner	23	560
Garnett	14	250
Giltedge	11	308
*Glasgow	5	1,158
*Glendive	12	2,428
*Great Falls	10	13,948
H		
*Hamilton	13	2,240
Hardin	26	250
Harlowton	19	770
Havre	4	3,624
Hays	4	412
Helena (capitol)	9	12,515
Henderson	7	260
Hobson	11	209
Hoffman	23	208
Huntley	26	250
I		
Iron Mountain	7	250
Ismay	28	360
J		
Jessup	2	220
Jocko	7	550
Joliet	25	389
Judith Gap	19	260

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Montana Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
K		
*Kalispell	2	5,549
Kendall	11	1,280
L		
Laurel	26	806
*Lewistown	11	2,992
*Libby	1	630
Lima	20	385
*Livingston	23	5,359
Lothrop	7	250
M		
Malta	5	433
Manhattan	22	460
Marysville	9	1,506
Meaderville	16	1,838
Melrose	16	208
Melstone	11	262
*Miles City	28	4,697
*Missoula	7	12,869
Monarch	10	382
Monday	5	350
Moore	11	573
N		
Neihart	10	268
P		
Paradise	6	250
Park City	26	460
Philbrook	11	208
*Philipsburg	14	1,109
Plains	6	481
Polson	2	369
Pony	21	369
Poplar	5	260
Prickly Pear Junction	9	1,208
Princeton	14	302
R		
Radersburg	18	364
*Red Lodge	25	4,860
Rosebud	27	250
Roundup	11	1,513
Ruby	21	260
S		
Saco	5	260
Saint Peter	10	302
Saint Regis	7	350
Saltese	7	350
Sandcoulee	10	980
Shelby	3	206
Sheridan	2	399
Sidney	12	362
Smith	25	382
Somers	2	750
Stanford	11	240
Stevensville	13	796
Stockett	10	1,404
Sun River	10	448
Sweetgrass	3	290
T		
Terry	28	706
*Thompson	6	325
Three Forks	22	674
*Townsend	18	759
Trail Creek	23	562
Troy	1	208
Twin Bridges	21	491
Twodot	19	260
V		
Victor	13	374
*Virginia City	21	467
W		
Walkerville	16	2,491
Washoe	25	320
Wataga	24	360
Wayne	10	250
Westbutte	4	362
West End	22	406
Whately	5	508
Whitefish	2	1,479
Whitehall	17	417
*White Sulphur Springs	19	417
Wibaux	12	487
Wickes	17	202
Willow Creek	22	208
Wisdom	20	250
Z		
Zortman	4	350

MONTANA

A Great State, Great in Cattle Raising, Great in Mining and Great in Opportunities for Irrigation.

This is a great State. Great in size. Great in mountains and wild scenery. Great in its sheep and cattle "on a thousand hills." Great in its inexhaustible mineral resources, great in its output of gold, silver and copper; great in its **milions of acres** of government land yet unappropriated. Great in stupendous mining operations and great in its **possibilities** for land seekers who will settle in the irrigated valleys and raise ripe, fresh agricultural and horticultural **food products** to feed the miners who get good pay and are willing to pay a liberal price for good things to eat.

EARLY EXPLORERS

In a search for furs a Frenchman and his sons wandered through these mountain fastnesses, as early as 1742. **Lewis and Clarke,** in 1805, marveled at the great water falls, climbed over the Rocky Mountains and **went westward** to the Pacific Coast. Following came a **trading post** on the Yellowstone River in 1809, and a **fur station** up in the valley country in 1827, erected Fort Union at the junction of the Milk River with the Missouri River.

Five years went by when the denizens at the fort **were surprised** one day, in 1832, by the arrival of a small steamer called the Yellowstone. **Fort Buford** was constructed at the junction of the Yellowstone River with the Missouri and the steamer Assinniboine **got up** to that point in 1835.

In 1846, close up to Great Falls, Fort Benton **was built** in Choteau county and the steamer Chippewa **reached that point** on the Missouri River in 1860, and established that as **the head** of navigation. **For 23 years the Missouri River** was the **great thoroughfare** for getting into the interior of Montana and not until the Northern Pacific Railroad reached Helena, in 1883, did the Missouri River traffic die out.

TWO GREAT DIVISIONS.

There are two great divisions of the State in topography. The western, one-third of the State, is mountainous; the eastern, two-thirds, a vast undulating, rolling expanse of prairie, gradually rising from the east to the Rocky Mountains, broken only by river valleys and occasional groups of mountains.

The prairie counties are Valley, Dawson, Custer, Rosebud, Yellowstone, Carbon, Sweet Grass, Fergus and Choteau, and a larger part of the Teton and Cascade counties. The other counties are **mountainous,** include the mineral regions and fertile **agricultural valleys** aided by irrigation and the continuous sunshine.

A COLD AND DRY CLIMATE

The climate of the State is dry and bracing, the winters are at times **very cold,** but as thorough preparation is made for cold weather and the sun is **nearly always shining in the daytime,** the winters are pleasant seasons. Formerly stockmen **lost heavily** of their sheep and cattle from the cold, but having learned the peculiarities of winters, and the necessity of having feed and shelter in severe weather, the loss by snowstorms and sudden cold no longer continues as formerly.

LENGTH OF OUTDOOR SEASONS.

The length of the warmest outdoor season may be judged by the opening of the **tourist season** in Yellowstone Park, June 1, and ending September 1, but **one month** may be added to that in the spring and **two delightful months** in the fall, while many people claim that with the continually clear air and wealth of sunshine all seasons, especially in the valleys and on the low lands, are delightful.

WHERE TO INVESTIGATE CONDITIONS.

The land seeker coming into Montana to procure acres and cultivate the soil, after going to the centrally located land offices, easily found from our table of county seats, and list of government land offices, which we publish elsewhere, will find it **advantageous to consult** mine owners as to where they get food supplies and the cost. Grocerymen are also well informed, hotel keepers know where they get the best of vegetables and fruits, **market gardeners** know what can be produced in this climate to best advantage, men **in charge** of irrigation works know where other well located fruit and vegetable land is located, and real estate dealers are **conversant with prices.** They are also well informed about lands and probably are **best authority** that can be consulted as to agricultural possibilities in the region.

The buyer of land should go slow enough and deliberate enough to get well situated on a small tract of ground near a flourishing mining town. We say **small** because that will mean less expense, better cultivation and greater profit. We are alluding now to the market gardener and the horticulturist. If the investor desires to engage in stock raising that is another matter. The government land offices and stock dealers **can give** required information to the land seeker.

Montana Opportunities in Agriculture and Varied Enterprises

The following brief outline of counties may aid a little in selection, but it is wisdom to **only buy** real estate after seeing the land and carefully investigating all the conditions, relating to title, cost of cultivation, distance to markets, market prices, etc.

LARGELY DEPENDING ON IRRIGATION.

This is a dry climate, where agriculture is largely depending, in fruit and vegetable culture, on irrigation, and among the first propositions will be investigation relating to **water supply,** though it may be understood that 40 per cent of the tilled lands of the state are now producing **without the aid** of irrigation. By the provisions of the new irrigation bill the **United States** government will irrigate the land and give the settler ten years to pay the cost. Thus if it costs $20 an acre, the farmer will pay $2 a year for 10 years and the cost is paid. If to put in the irrigation works **costs $10** an acre, one dollar a year, without interest, will remunerate the government, and the debt be paid in 10 years.

Several irrigation enterprises are going forward in Montana and various plans are pursued in paying for first putting the works in. **Some irrigation companies** obtain a large tract of land, build canals leading water to these lands, and sell, with irrigation, for a small weekly or monthly payment. Since the new irrigation law has come into force, which gives the settler a chance to make a small annual payment, without interest, thousands of farmers are buying irrigated land, preferring to pay for absolute assurance that they can raise crops, independent of rainfall. The whole situation relating to irrigation is soon learned when the land seeker arrives in the region where he proposes to settle. See our description of Government Irrigation elsewhere.

GREAT OPPORTUNITIES FOR IRRIGATING.

Because of the uneven surface of the entire state and so **many streams** coming from the highlands, it is believed to be a conservative statement that **one-fourth** of all the land in the state is susceptible to irrigation. This applies particularly to the agricultural land in the mountainous regions of the **western parts** of the state where water from the mountain sides can be easily conveyed to the lands in the valleys.

This also applies to a large portion of the eastern counties. Thus Valley county, now principally devoted to stock raising, can have 300 square miles successfully irrigated. Our table of government lands shows a good deal of government land yet left in this county.

In favor of irrigation it may be said that average lands worth $2.50 per acre can have a value of $50 and $100 per acre placed on them after they receive water.

Choteau County has seventy rich valleys with some irrigated land where the farmers are highly prosperous. The most of the land is yet unoccupied and new settlers will be welcomed here. It costs about $3 an acre to put water on this land, which can be paid for with the first crop.

In Teton County an irrigation company has reclaimed some 40,000 acres, have sold a good deal of their land, but a large amount yet remains unsold. The price of land, with water, is $15 per acre up.

WAITING FOR NEW SETTLERS.

Flathead County, in the beautiful Flathead valley, thirty-five by eighteen miles in area, with tens of thousands of acres of forest lands on the higher elevations adjoining, waiting for the incoming homesteaders. The Chinook winds, from the Pacific, flow in here and the **winter climate is mild, so mild** the thermometer very seldom reaches down to zero.

Dawson County is adapted to, and is at present utilized for stock raising. **It has** rich valleys which could easily be irrigated.

Fergus County has varied resources; timber covered mountains and valley lands with different soils, mining lands and coal beds.

Cascade County has numerous resources, among them great water power, coal, iron and a **rich soil** for growing agricultural products.

Lewis and Clarke County is one of the most prolific producers of precious metals of any county in the state, has a large area of farming land easily irrigated and persons interested in searching for gold should investigate the mineral opportunities of this county.

VALUES ADDED BY IRRIGATION.

The last United States Government Report of agriculture, mining and irrigation in Montana gives the following as the increased value of lands in each county, the result of irrigation:

	Average Value per Acre Exclusive of Buildings.		Average Cost for Water per Acre.
Counties—	Unirrigated Farms.	Irrigated Land.	Annual Maintenance.
Beaver Head	$3.38	$13.24	$0.20
Broadwater	5.43	16.74	0.16
Carbon	3.20	19.69	0.26
Cascade	4.09	15.04	0.31
Choteau	2.25	13.88	0.27
Custer	2.32	29.47	0.79
Dawson	2.04	12.19	0.39
Deer Lodge	4.79	20.48	0.23
Fergus	2.16	12.70	0.21
Flathead	11.58	32.46	0.52
Gallatin	10.74	31.22	0.13
Granite	5.20	14.99	0.27
Jefferson	2.59	22.31	0.14
Lewis and Clarke	5.26	14.00	0.20
Madison	6.18	17.70	0.23
Meagher	1.25	12.49	0.14
Missoula	8.46	55.91	0.33
Park	4.73	15.73	0.33
Ravalli	6.44	37.46	0.12
Silver Bow	5.54	23.77	0.17
Sweet Grass	2.32	21.31	0.68
Teton	4.22	14.82	0.32
Valley	3.52	18.47	0.15
Yellowstone	1.37	32.15	0.49

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude. Highest, Emigrant Peak, in Park Co., 10,969 feet.

Climate. Mild but bracing. Summers warm and dry, nights cool. Winters short and tempered by Chinook winds. Autumn most delightful season. Severest cold after Christmas. Rainfall light. Average annual temperature, state, 46. Highest 103, lowest 42 below. Average annual rainfall at Helena, 13 inches.

Dimensions. Length of state north and south, 315 miles; breadth, east and west, 580 miles.

History. Explored by Lewis and Clarke, 1804-6. Trading post established on Yellowstone River, 1809. Fort Union, in Dawson Co., built in 1827. Fort Benton, in Choteau Co., on Missouri River, erected 1846. Territory organized 1864, admitted to the Union 1889.

MEN GET HOMES—WOMEN GET HUSBANDS AT CHINOOK, MONTANA.

Chinook, Mont.

Max Bass, Dear Sir:—In my sixteen years' experience in the Milk river valley I have never felt more optimistic over the prospects for the valley than at the present time.

The government, under the beneficent "Irrigation Act," is already at work on the St. Mary's Milk River Project that will reclaim at least a quarter of million acres more of our rich, but arid, valley lands.

Our extensive public ranges bearing the world-renowned bunch and blue joint grass, and our short mild winters will make this one of the greatest stock producing centers of the west.

Our present need is for more help on our ranches. Farm hands have been getting $40 per month for nine months of the year for the past four years. Girls for housework get from $18 to $25 per month, and have many advantages not accorded to the domestics employed in the older settled sections of the United States. Men who come here to work soon get themselves a piece of land and the girls soon get a man, thus instead of increasing the supply, they increase the demand for more laborers. Work can almost always be secured here in the winter, though, of course, at somewhat lower wages.

The shortage of labor has depreciated the price of land and it is said by competent authority that land is cheaper here in proportion to its productivity, than almost anywhere in the United States. Irrigated lands can be purchased here now for $25 per acre that can be made to yield a handsome interest on three times that price. There are also undoubtedly many acres of vacant public land, open to homestead and desert entry, that will some day be irrigated.

Yours respectfully,

W. B. Sands.

Montana—General Information About Irrigation

METHODS OF IRRIGATION.

The Twentieth Century Farmer Gives Herewith Directions and Important Suggestions On How to Irrigate Properly.

Since the practice of irrigation is coming into general use over a continually increasing area, a discussion of the methods of conducting and the advantages that come from such a system may not be entirely inappropriate.

WHERE TO GET WATER.

When farming under irrigation, in addition to buying a farm, water must also be procured. This may come from two sources. Either from the natural **mountain streams** or by the melting snows that have accumulated on the mountain sides and in the canyons during the winter months, or from storage reservoirs in the foothills where the water from snows and rains may be retained until liberated for irrigation.

BUYING LAND WITH WATER RIGHT.

When valley land is first taken up the farmers file a claim for so many miners' inches, as that is the basis for measuring irrigation water, in the nearest mountain stream, with the state government, and these "prior rights" are recognized. After all the water has been taken in this way the usual method is to **buy a certain portion** from an early settler or by building large storage dams across the canyons increase the amount of water available during the irrigation season. **Most of the Montana valley lands** at present are covered by a water right, and these have been adjusted for some time, so that when a farm is purchased the water right is included.

WATER COMMISSIONER'S DUTY.

As the water rights frequently include land several miles from the main stream, canals are built through the farms that are watered from the stream. Headgates are provided and the amount of water to which each farm is entitled may be taken out. The **adjusting of these** is usually done by a "water commissioner," a man named by the local judge to apportion the water out as it has been filed upon.

LAND MUST BE MADE LEVEL.

The first essential to the proper irrigation of a field is that it must be as near level as possible. This is usually brought about by **going over the field just before seeding** the crop with a large leveler. This is usually made by firmly bracing several 2x6 12-foot boards, usually four, about three feet apart, and going over the field, over each way, with this implement. This removes the small irregularities, filling the low places and smoothing off the higher places.

MAIN DITCHES, LATERALS AND DAMS.

When the crop is up several inches the main and lateral ditches have to be made. The main ditch comes from the canal and runs across the farm on the highest ground. The laterals radiate from the main, starting out **every 60 to 100 feet,** according to the contour of the field. They are run to grade, giving them a fall of about one-tenth of a foot in the 100 feet. If greater fall than this is allowed there is danger of great annoyance from the **washing and cutting** of ditches. These are usually about four inches deep and are run with a double mold board plow. If the lateral ditches are plowed before the grain is up great annoyance comes from the grain **growing up through** the sides. As soon as the side ditches are plowed dams every twenty feet are constructed. This is usually done by means of a dammer, which consists of a flat board face fastened to the frame of an ordinary plow. This is drawn along the bottom of the ditch and **when sufficient earth is collected** in front it is simply raised and the small dam remains. These settle and by irrigating time are effective dams.

WHEN TO IRRIGATE.

It is unwise to irrigate before the crop is up so as to fully shade the ground. If done before this time, the baking of the soil which comes as a result of the rays of hot sun makes **undesirable crop conditions.** A crop of grain such as oats or wheat sown April 15, will be fit to irrigate July 1.

AFTER WATER IS TURNED ON.

When the water is turned in the main ditches it is allowed to run past about four laterals and then is dammed. This forces it into the laterals. As it flows down these and comes in contact with the previously constructed dams it spreads and is **held here until the space** between the laterals is entirely flooded. The first dams are then cut out and it moves on to the next, where it is stopped and spreads again.

WHAT MAN CAN DO IN IRRIGATING.

A good active man can attend to water for about four or five laterals and will get over from three to five acres in twenty-four hours. Not that he will remain in the field all this time, but by **regulating the water** so that it will spread considerable land may be covered during the night.

RESULT OF IRRIGATION.

An irrigation system affords control of one more of the essential factors in growth than is afforded under ordinary humid conditions, viz.: the moisture supply. This can be added or withheld according as the needs of the growing crops dictate and the effect is shown in the yields obtained. In Montana, where irrigation has reached **a high state of perfection,** a yield of 140 bushels of oats per acre is not uncommon. On the Montana Experiment Station farm, a yield of 146½ bushels of oats to the acre was harvested this last season.

CROPS THAT ARE HIGHLY BENEFITED.

While all the cereal crops do exceptionally well under irrigation, one crop that gives phenomenal returns is sugar beets. It is recognized that late rains which induce late growth in sugar beets **cause a marked reduction** in the sugar content. When the moisture can be controlled this does not occur and very high sugar content and high purity results. Under this condition 22 per cent sugar is not uncommon. **Alfalfa grows splendidly** under irrigation and the perfect curing that is possible gives a feed of the highest quality. In all the many hours of sunshine as a result of the cloudless days, coupled with "water only when best," makes conditions for maximum production.

WHAT FARMERS THINK OF MONTANA.

CHANCES BETTER IN MONTANA.

Mr. Max Bass. Great Falls, Mont.

Dear Sir: Have lived in Montana twenty-four years. In 1884 I engaged in stockraising and farming near Milligan, Mont. I believe that a farmer's chances of success are better in this part of Montana than in any of the eastern states. His income in proportion to the amount of his investment is many times greater; the markets are good; his income is sure, and the value of his holdings is constantly increasing. Have been successful myself and believe that others coming here now can do as well.

J. W. Milligan.

Mr. Max Bass. Houskin, Mont.

Dear Sir: I have been farming five years. The first year I had a fine crop. My wheat went thirty-seven bushels per acre that year, oats averaged sixty bushels, barley fifty bushels, potatoes 200 bushels, timothy hay two tons per acre. The second year the oats went forty bushels, barley thirty-five bushels, potatoes 100 bushels per acre. The third year my wheat averaged seventeen bushels to the acre, oats twenty bushels, barley twenty bushels, potatoes about seventy-five bushels to the acre. My potato crop was poor that year, because I planted on too wet ground. Hay about one ton to the acre. The fourth year wheat went ten bushels to the acre, barley thirty bushels, potatoes 250 bushels per acre, hay one and one-half tons to the acre. Last year wheat averaged fifteen bushels per acre, barley fifty bushels, potatoes 150 bushels, hay one ton per acre.

The years 1904 and 1905 were said to be the dryest during the last fifteen years. The climate is very good and my stock is looking fine.

Yours truly,
Fred Gustafson.

Mr. Max Bass. Houskin, Mont.

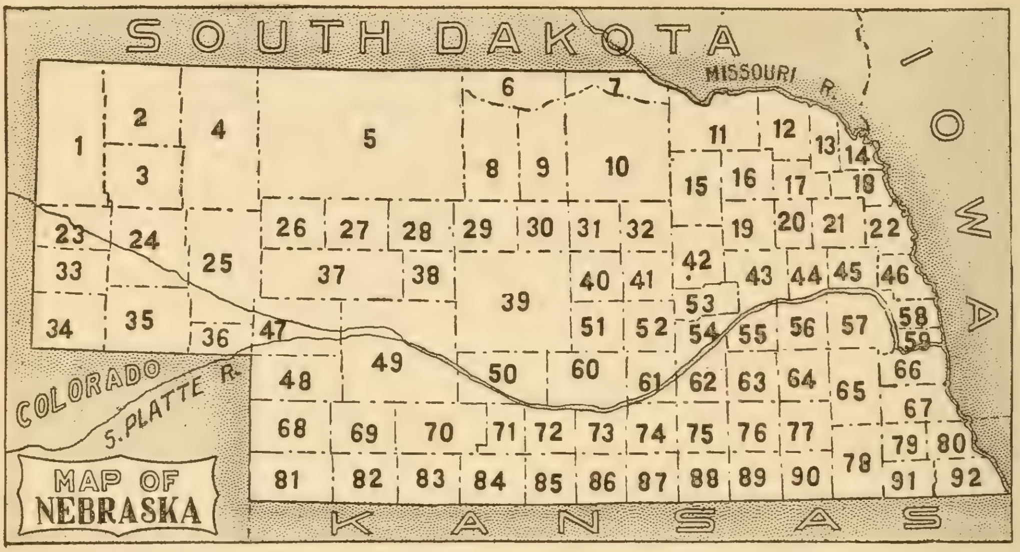
Dear Sir: I came here from South Dakota seventeen years ago and I think Montana the best state for a poor man who is willing to work that I have ever seen. I have grown good crops for the past 16 years. Wheat will average twenty-five to thirty bushels per acre, oats forty-five to fifty bushels, barley forty to fifty bushels, potatoes 125 sacks, averaging fully 100 pounds to the sack, and good crops of timothy and alfalfa. All without irrigation.

This is a fine country for stock. Climate is very good and we have fine spring water.

Yours truly,
John J. Tofte.

STATE AND THE 92 COUNTIES OF NEBRASKA

With Their Boundaries



LOCATION AND 1910 POPULATIONS OF NEBRASKA COUNTIES

Loca.	*County*	*Pop.*	*Loca.*	*County*	*Pop.*	*Loca.*	*County*	*Pop.*	*Loca.*	*County*	*Pop.*
1	Sioux	.....	25	Garden	3,538	49	Lincoln	15,684	73	Kearney	9,106
2	Dawes	8,254	26	Grant	1,097	50	Dawson	15,961	74	Adams	20,900
3	Box Butte	5,599	27	Hooker	981	51	Sherman	8,278	75	Clay	15,729
4	Sheridan	7,328	28	Thomas	1,191	52	Howard	10,783	76	Fillmore	14,674
5	Cherry	10,414	29	Blaine	1,672	53	Nance	8,926	77	Saline	17,866
6	Keypaha	3,152	30	Loup	2,188	54	Merrick	10,379	78	Gage	30,325
7	Boyd	8,826	31	Garfield	3,417	55	Polk	10,521	79	Johnson	10,187
8	Brown	6,083	32	Wheeler	2,292	56	Butler	15,403	80	Nemaha	13,095
9	Rock	3,627	33	Banner	1,444	57	Saunders	21,179	81	Dundy	4,098
10	Holt	15,545	34	Kimball	1,912	58	Douglas	168,546	82	Hitchcock	5,415
11	Knox	18,358	35	Cheyenne	4,551	59	Sarpy	9,274	83	Redwillow	11,056
12	Cedar	15,191	36	Deuel	1,786	60	Buffalo	21,907	84	Furnas	12,083
13	Dixon	11,477	37	McPherson	2,470	61	Hall	20,361	85	Harlan	9,578
14	Dakota	6,564	38	Logan	1,521	62	Hamilton	13,459	86	Franklin	10,303
15	Antelope	14,003	39	Custer	25,668	63	York	18,721	87	Webster	12,008
16	Pierce	10,122	40	Valley	9,480	64	Seward	15,895	88	Nuckolls	13,019
17	Wayne	10,397	41	Greeley	8,047	65	Lancaster	73,793	89	Thayer	13,019
18	Thurston	8,704	42	Boone	13,145	66	Cass	19,786	90	Jefferson	16,852
19	Madison	19,101	43	Platte	19,006	67	Otoe	19,323	91	Pawnee	10,582
20	Stanton	7,542	44	Colfax	11,610	68	Chase	3,613	92	Richardson	17,448
21	Cuming	13,782	45	Dodge	22,145	69	Hayes	3,011			
22	Burt	12,726	46	Washington	12,783	70	Frontier	8,572			
23	Scotts Bluff	8,355	47	Keith	3,692	71	Gosper	4,933		Total	1,192,214
24	Morrill	4,584	48	Perkins	2,570	72	Phelps	10,451			

Nebraska Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
Abie	56	219
Adams	78	647
*Ainsworth	8	1,045
*Albion	42	1,584
Alexandria	89	447
Allen	13	317
*Alliance	3	3,105
*Alma	85	1,066
Alvo	66	225
Amherst	60	256
Anselmo	39	351
Ansley	39	701
Arapahoe	84	901
Arcadia	40	618
Arlington	46	645
Arnold	39	231
Ashland	57	1,379
Ashton	51	404
Asylum	65	601
Atkinson	10	811
Atlanta	72	251
*Auburn	80	2,729
Auburn Station	80	801
*Aurora	62	2,630
Avoca	66	249
Axtell	73	394
B		
Bancroft	21	742
Barnston	78	228
Bartley	83	511
*Bassett	9	383
Battle Creek	19	597
Bayard	24	261
*Beatrice	78	9,356
*Beaver City	84	975
Beaver Crossing	64	542
Bee	64	207
Beemer	21	494
Belden	12	247
Belgrade	53	401
Bellevue	59	596
Bellwood	56	397
Belvidere	89	475
Benedict	63	336
*Benkelman	81	538
Bennet	65	457
Bennington	58	276
Benson	58	3,170
Bertrand	72	643
Bethany	65	948
Bladen	87	494
*Blair	46	2,584
Bloomfield	11	1,264
*Bloomington	86	507
Blue Hill	87	761
Blue Hill Jct.	87	712
Bradshaw	63	359

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Nebraska Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Brady	49	328
Brainard	56	465
*Brewster	29	225
*Bridgeport	24	541
Brock	80	434
*Broken Bow	39	3,261
Brownville	80	457
Brule	47	481
Bruning	89	245
Bruno	56	225
Brunswick	15	278
Burchard	91	815
Burkett	61	401
*Burwell	31	915
*Butte	7	551
C		
Cairo	61	364
Calhoun	46	346
Callaway	39	765
Cambridge	84	1,029
Campbell	86	573
Carleton	89	393
Carroll	17	382
Cedar Bluffs	57	501
Cedar Rapids	42	576
*Central City	54	2,428
Ceresco	57	296
*Chadron	2	2,687
Chapman	54	266
*Chappell	36	329
Chester	89	561
Clarks	54	605
Clarkson	44	647
Clatonia	78	233
*Clay Center	75	1,065
Clearwater	15	414
Coleridge	12	525
Collegeview	65	1,508
*Columbus	43	5,014
Comstock	39	323
Cook	79	387
Cordova	64	201
Cortland	78	364
Cozad	50	1,096
Crab Orchard	79	275
Craig	22	338
Crawford	2	1,323
Creighton	11	1,373
Creston	43	338
Crete	77	2,404
Crofton	11	611
Culbertson	82	581
Curtis	70	613
D		
*Dakota	14	474
Dalton	35	207
Danbury	83	268
Dannebrog	52	381
Davenport	89	484
*David City	56	2,177
Dawson	92	2,340
Daykin	90	221
Decatur	22	782
Deshler	89	609
Deweese	75	201
De Witt	77	675
Diller	90	506
Dixon	13	217
Dodge	45	661
Doniphan	61	399
Dorchester	77	611
Douglas	67	305
Du Bois	91	339
Dunbar	67	216
Dundee	58	1,023
E		
Eagle	66	361
Eddyville	50	254
Edgar	75	1,081
Edison	84	334
Elba	52	302
Elgin	15	606
Elk Creek	79	241
Elkhorn	58	291
Elm Creek	60	621
Elmwood	66	635
*Elwood	71	464
Emerson	13	338
Endicott	90	204
Eustis	70	403
Ewing	10	441
Exeter	76	916
F		
*Fairbury	90	5,294
Fairfield	75	1,054
Fairmont	76	921
*Falls City	92	3,255
Farnam	50	462
Firth	65	343
Florence	58	1,526
Fort Calhoun	46	324
Fort Crook	59	203
Fort Robinson	2	201
Franklin	86	949
*Fremont	45	8,718
Friend	77	1,261
*Fullerton	53	1,638
G		
*Gandy	38	201
*Geneva	76	1,741
Genoa	53	1,378
Gering	23	627
Germantown	64	275
Gibbon	60	718
Giltner	62	301
Glenville	75	304
Gordon	4	921
Gothenburg	50	1,730
Grafton	76	353
*Grand Island	61	10,326
*Grant	48	358
*Greeley	41	845
Greenwood	66	387
Gresham	63	344
Gretna	59	484
H		
Haigler	81	205
Hampton	62	383
Hardy	88	496
*Hartington	12	1,413
Harvard	75	1,102
*Hastings	74	9,338
Havelock	65	2,680
*Hayes Center	69	250
Hay Springs	4	408
Headquarters	32	301
*Hebron	89	1,778
Hemingford	3	272
Henderson	63	391
Hendley	84	238
Herman	46	345
Hershey	49	332
Hickman	65	385
Hildreth	86	451
Holbrook	84	414
*Holdredge	72	3,031
Holstein	74	323
Homer	14	397
Hooper	45	741
Hoskins	17	267
Howard City	52	233
Howell	44	801
Hubbell	89	295
Humboldt	92	1,776
Humphrey	43	868
Huntington	62	411
*Hyannis	26	262
I		
*Imperial	68	402
Indianola	83	681
Inman	10	225
J		
Jackson	14	291
Jansen	90	308
Johnson	80	273
Johnstown	8	201
Juniata	74	471
K		
*Kearney	60	6,202
Kenesaw	74	657
Kennard	46	319
*Kimball	34	454
L		
Laurel	12	514
Lawrence	88	475
Leigh	44	567
*Lexington	50	2,059
Liberty	78	394
Lincoln (capital)	65	43,973
Lindsay	43	465
Linwood	56	329
Litchfield	51	403
Lodgepole	35	245
Long Pine	8	781
Loomis	72	284
Louisville	66	778
*Loup City	51	6,128
Lushton	63	205
Lynch	7	583
Lyons	22	865
M		
*Madison	19	1,708
Malmo	57	214
Marquette	62	291
Martinsburg	13	291
Mason City	39	482
Maxwell	49	289
Maywood	70	443
*McCook	83	3,765
McCool Jct	63	369
Mead	57	331
Meadow Grove	19	388
Merna	39	459
Merriman	5	254
Milford	64	716
Millard	58	262
Miller	60	331
Milligan	76	336
Minatare	23	338
*Minden	73	1,559
Mitchell	23	642
Monroe	43	282
Morrill	23	346
Murdock	66	222
N		
Naper	7	301
Naponee	86	201
*Nebraska City	67	5,488
*Neligh	15	1,566
Nelson	88	978
Nemaha	80	325
Newcastle	13	436
Newman Grove	19	851
Newport	9	268
Niobrara	11	822
Norfolk	19	6,025
North Bend	45	1,105
North Loup	40	519
*North Platte	49	4,793
O		
Oak	88	237
Oakdale	15	631
Oakland	22	1,073
Oconto	39	245
Odell	78	427
*Ogallala	47	643
Ohiowa	76	373
*Omaha	58	124,096
*O'Neill	10	2,089
Optic	60	285
Orchard	15	532
*Ord	40	1,961
Orleans	85	942
*Osceola	55	1,105
Osmond	16	567
Overton	50	574
Oxford	84	593
P		
Page	10	301
Palisade	82	380
Palmer	54	373
Palmyra	67	334
Panama	65	231
*Papillion	59	624
*Pawnee City	91	1,610
*Pender	18	804
Peru	80	951
Petersburg	42	533
Phillips	62	274
*Pierce	16	1,202
Pilger	20	471
Plainview	16	941
Platte Center	43	388
*Plattsmouth	66	4,287
Pleasant Dale	64	257
Pleasanton	60	252
Plymouth	90	438
Polk	55	396
*Ponca	13	1,001
Posen	52	246
Prague	57	394
R		
Ragan	85	214
Ralston	58	201
Randolph	12	1,137
Ravenna	60	1,354
Raymond	65	236
*Red Cloud	87	1,686
Republican City	85	476
Reynolds	90	246
Rising City	56	456
Riverton	86	369
Rockville	51	201
Roseland	74	249
Rulo	92	661
*Rushville	4	633
Ruskin	88	339
S		
St. Edward	42	814
*St. Paul	52	1,336
Sargent	39	651
*Schuyler	44	2,152
Scotia	41	328
Scottsbluff	23	1,746
Scribner	45	891
*Seward	64	2,106
Shelby	55	503
Shelton	60	1,005
Shickley	76	429
Shubert	92	311
*Sidney	35	1,185
Silver Creek	54	379
Sioux	14	1,003
Snyder	45	314
South Auburn	80	801
South Omaha	58	26,259
So. Sioux City	14	1,196
Spalding	41	637
Spencer	7	671
Springfield	59	463
*Springview	6	216
Stamford	85	301
*Stanton	20	1,342
Staplehurst	64	228
Steel City	90	302
Steinauer	91	248
Stella	92	431
Sterling	79	714
Stockham	62	601
*Stockville	70	232
Strang	76	238
Stratton	82	367
Stromsburg	55	1,355
Stuart	10	467
Summer	50	321
Superior	88	2,106
Surprise	56	323
Sutherland	49	447
Sutton	75	1,702
Swanton	77	285
Syracuse	67	842
T		
Table Rock	91	814
Talmage	67	461
Tamora	64	205
*Tecumseh	79	1,748
*Tekamah	22	1,524
Tilden	19	901
Tobias	77	447
*Trenton	82	497
U		
Uehling	45	228
Ulysses	56	551
Unadilla	67	209
Union	66	302
University Pl	65	3,202
Upland	86	391
Utica	64	522
V		
*Valentine	5	1,095
Valley	58	842
Valparaiso	57	561
Verdigre	11	403
Verdon	92	406
W		
Waco	63	293
*Wahoo	57	2,168
Wakefield	13	861
Walthill	18	812
Waterloo	58	402
Wauneta	68	327
Wausa	11	604
Waverly	65	297
*Wayne	17	2,140
Weeping Water	66	1,067
Western	77	499
West Lincoln	65	201
Weston	57	432
*Westpoint	21	1,768
*Wilber	77	1,219
Wilcox	73	382
Wilsonville	81	381
Winnebago	18	399
Winnetoon	11	223
Winside	17	451
Wisner	21	1,081
Wolbach	41	225
Wood River	61	796
Wymore	78	2,613
Wynot	12	258
Y		
*York	63	6,235
Yutan	57	353

NEBRASKA

ONE OF THE GREAT YOUNG WESTERN STATES WITH NUMEROUS IMPORTANT INDUSTRIES BEING DEVELOPED.

Nebraska is one of the largest states, having an area of 76,855 square miles, being more than **six times** as large as the state of Massachusetts.

ALL RIVERS SLOPE TO THE MISSISSIPPI RIVER.

It occupies an elevated plateau, the lowest portion being in the southeastern part of the State, where the elevation is 880 feet. The eastern half of the State has an average elevation of 1,400 feet and the whole State averages 2,312 feet above the sea.

The principal rivers are the Missouri, along the eastern boundary, and the Platte, Niobrara and the Republican, all flowing east. There are **few swamps** and mashes, but quite a number of small lakes.

ATMOSPHERE DRY AND INVIGORATING.

Though great extremes of heat and cold are experienced in this State sometimes, they are not usual. The mean temperature is about 51, ranging from 94 above to 17 below zero. The mean temperature of the North Platte is 46. The annual rainfall is about 22 inches.

Though the climate is mild and dry, **drowth rarely** damages the crops, for the soil is such that it withstands extreme and prolonged heat. **The mean temperature** during the winter months ranges from 22 to 30 degrees, that of the spring from 47 to 49 degrees, of the summer from 70 to 74 degrees, and of the autumn from 49 to 51 degrees.

HEAT TEMPERED BY PRAIRIE WINDS.

The heat of the summer is tempered by the prairie winds, and the nights are usually cool. The **greatest amount** of rain falls in May and June. The average annual temperature for 15 years at Kearney was 47.53; at Omaha it is about 48. The average annual rainfall at Kearney is 25.25 inches. In parts of the west and southwest it is 17 to 19 inches.

AGRICULTURE AND AGRICULTURAL POSSIBILITIES.

Give to a good climate a strong rich soil and thereon will be ultimately a prosperous, **wealthy population.** As **all wealth** comes from the soil, we can largely estimate the **future of a region** by its fertility.

The Soil in the eastern part of this State is a rich black **vegetable mold** from 2 to 10 feet deep, slightly impregnated with lime, free from stones or gravel, **easily plowed** and underlaid by a yellow clay in most places.

Up to the present time the cultivation of the soil and stock raising are the principal industries of the State. Of the 49,177,600 acres, the **grazing sections** comprise about 23,000,000 acres, or about **one-half** of the State. This entire region for the most part is well watered.

FORMERLY A GREAT CATTLE REGION.

The wild grasses which formerly covered large portions of the State were very **nutritious** and **large herds** of cattle from Texas were pastured and fattened here for the eastern markets. The steady settlement, taking up and fencing off the land is changing the whole region into an area of cultivated farms.

We say "is changing," from the fact that this is a **young** state yet, with only about a small number of persons to the square mile, less than a third as dense a population as Missouri and less than a half that of Kansas.

Though Nebraska is a young State, with over **4,000,000 acres** of government land in the state **not taken** up yet, the yield of cereals in one recent year in Nebraska was, wheat, 48,002,603 bushels; oats, 58,474,370 bushels, and 263,551,772 bushels of corn, being third in rank in the corn-producing States.

DEVELOPMENT IN MANUFACTURING.

But while the rich soil of the State will always make Nebraska an agricultural State, it is already becoming a good deal of a manufacturing point as illustrated in the fact that in 1906 the annual value of manufactured products in the State in a late year was 154,918,220. To make that product, 20,260 wage-earners were employed to whom was paid $11,022,149.

Omaha, the metropolis of the State, has one of the most complete establishments in the United States for smelting, separating and refining ores, of gold, silver, copper, lead and zinc, brought here from mining regions on the line of the Union Pacific and other railroads. **Other industries** include machine shops, distilleries and manufacturers of brick, steam engines, etc. In South Omaha are the extensive stock yards of the Union Pacific Railroad, occupying a large tract of land.

Omaha is the third largest pork-packing city in the world, with immense packing houses having plants valued at over $2,500,000.

ELEVATORS, SALT, LEATHER, FURNITURE.

Lincoln, a great railroad center, has foundries and grain elevators, extensive manufactures of salt, also leather, furniture, bricks and tiles. Other cities in the State are rapidly developing manufacturing institutions, among these Kearney, Nebraska City and Hastings, all places of importance, while Beatrice, in the southeastern part of the state, has large quarries.

A GREAT COMING INDUSTRY.

The manufacture of sugar from the sugar beets is evidently destined to be one of the large industries of the state, and to make this an absolutely safe enterprise the United States government is entering upon an extensive system of adding to the productive power of the western part of the state by irrigation. The following is the outline of the plan mapped out, which will affect Scotts Bluff, Banner and Cheyenne counties in western Nebraska.

NORTH AND SOUTH PLATTE RIVERS.

There are two important rivers in the western part of this state. One, the **North Platte,** which enters Nebraska at Scotts Bluff county, and flows eastward across the entire state, a distance of over 400 miles, emptying into the Missouri River at Plattsmouth, some fifteen miles south of Council Bluffs.

The other river is the **South Platte,** which comes in from Colorado, enters Nebraska in Deuel county, flows eastward and **joins** the North Platte River at the town of North Platte in Lincoln County.

IRRIGATION IN NEBRASKA.

Examination has shown that a considerable body of land can be irrigated by holding the North Platte in certain natural reservoirs in eastern Wyoming and by the construction of an interstate canal **25,000 acres** of sandy land can be reclaimed in Wyoming and **900,000 acres** in Nebraska.

The head-gate for this interstate canal will be at a point about midway between Guernsey and Fort Laramie in Wyoming on the North Platte River and the canal will extend 150 miles into Nebraska to the vicinity of Bridgeport in Cheyenne County.

The lands benefited by this government irrigation project in Nebraska lie in Sioux, Scotts Bluff, Banner and Cheyenne Counties. By examination of our counties having government land therein it will be seen that a large amount of government sandy land is in Cheyenne, Scotts Bluff and Sioux Counties and a barren soil all along this **150 miles** of irrigation canal will become highly fertile.

The particulars about the opening of this land by the government to settlement, cost of land, etc., can be learned by addressing the Government Land Department, Alliance, Boxbutte County, Nebraska.

Nebraska Opportunities in Agriculture and Varied Enterprises

Ask also about other irrigation schemes in Nebraska. It is claimed that in 1895 the State at that time had 2,219 miles of irrigating canals, built or under construction.

THE DENVER MARKETS.

A study of railroad maps will show that this newly reclaimed land will, by the Burlington and Union Pacific railways be but a short distance from Denver, which market will call for all the fruits, melons and early vegetables that can be raised in those counties.

Naturally, as sugar beet raising is coming into practice in Nebraska, this irrigated land will be a **sure producer** of this product.

It may interest the reader to know that mechanical devices have been so perfected in harvesting beets that a team, driven by the side of a row of beets, so drives an appliance under the beets so as to lift the vegetable from the ground, top it and carry it by an endless apron to a wagon by the side of the machine. Thence, fresh from the ground, with the soil still clinging to them, and without a **touch of human hand**, they pass on through the factory, from one process to another, until in eighteen hours' time they come out white sugar ready for the market.

MAY BE CENTER OF SUGAR PRODUCTION.

With a favorable climate for growing the beet, with a fertile soil adapted to its production, with all the latest modern appliances for the conversion of the juices of the beet into sugar, it is possible that Nebraska may become the center for the beet sugar industry of the United States.

We advise the land-seeker to **write** to the United States Department of Agriculture for **Bulletin No. 257**, entitled "Soil Fertility," and Bulletin No. 52, entitled "Sugar Beet," and after a study of these write to Scyler, Colfax Co., managers of the sugar beet colony at Grand Island, Hall County, and Norfolk, Madison County, asking what inducements they offer to growers of beets. It should be unnecessary for us to say here that in order to get a prompt answer it is always wise to enclose with a letter a prepaid return envelope.

ALWAYS DEMAND FOR SUGAR.

There will be a never-ceasing call for syrups and sweets, whether made as a glucose from corn, from fruits, sorghum, from maple trees, from flowers by bees, from sugar cane or sugar beets, it always will be in demand and will sell; with what profit depends upon management in the production of the article.

The land seeker who will hunt down the sugar beet, go into and raise it, may certainly have a prosperous future.

CONDENSED IMPORTANT FACTS RELATING TO NEBRASKA.

Altitude. Highest at White River summit, in Dawes County, 4,876 feet.

Climate. Omaha, average in January, 19 above; July, 74. Highest, 106; lowest, 32 below. Average annual rainfall, 31.7 inches.

Dimensions. Extreme breadth from east to west, 415 miles. Extreme length from north to south, 205 miles. Area, 77,510 square miles.

History. Was originally a part of the Louisiana Purchase ceded by France to the United States in 1803. Visited by Lewis and Clarke in 1804-5. Platte Valley explored by Major Long, for United States Government in 1820. First settlement by whites at Bellevue, Sarpy County, 1847. Nebraska Territory organized in 1854. Admitted to Union in 1867. Bellevue first capital. Seat of government removed to Omaha in 1855; to Lincoln in 1867.

Lakes in Nebraska.	Miles Long.	Miles Wide.
Clear Lake, Cherry Co	1½	¾
Cottonwood Lake, Holt Co	1	½
Dad's Lake, Cherry Co	3½	1½
Freshwater Lake, Cherry Co	1	½
Marsh Lake, Cherry Co	2	1
Moon Lake, Brown Co	4	1
Pelican Lake, Cherry Co	2	1
Red Deer Lake, Cherry Co	2	1
Swan Lake, Holt Co	1¾	½
Twin Lake, Brown Co	1½	½
Willow Lake, Brown Co	1	½

DIFFERENT VARIETIES OF TREES IN NEBRASKA.

Native Forest Trees. Of forest trees the leading variety is the **Cottonwood** which grows luxuriantly on river bottoms, and many uplands. The ash-leaved maple, soft maple, elms, various species of ash, lindens and willows are in various parts of the state about equal in abundance. The most **valuable tree** is the black walnut, which grows luxuriantly. The red cedar is abundant in some sections. Spruce and pine **are found** on tributaries of the Niobrara and Loup, and in the extreme western part of the state. **Shrubs** are well represented Wild fruits abound; among which plums and grapes are most conspicuous. The **grapes** are limited to timber belts. The smaller wild fruits are **widely distributed** over the state. Grasses and corn are the **principal** products. Corn, especially, is a rarely failing crop. Eastern Nebraska is eminently **adapted** to the growth of apples, grapes, plums and cherries do equally well. **Peaches** are successfully grown south of the Platte.

Mining. The mineral wealth of the state consists mainly of bituminous black and lignite **coal** in the beds, with a little iron. Valuable beds of limestone, yellowish gray sandstone and red freestone. Also good **brick** and **pottery** clay, and remarkably pure salt.

CAN MAKE ENTRY OF 640 ACRES.

In 1904 Congress passed an act known as the Kinkaid Bill, under the terms of which large tracts of public lands in northwestern Nebraska, reached by the line of the Chicago & North-Western Railway, were thrown open to settlement. The principal feature of the Kinkaid Bill is that the applicant may, in the territory named, make entry under the homestead laws of 640 acres (one square mile) instead of 160 acres of land. The purpose of this is to enable the homesteader to use his land profitably for grazing purposes.

There are large quantities of these unallotted public lands in Nebraska, situated in the northern part of the state, through which the Chicago & North-Western Railway passes directly. The lands affected have been open to the homesteader in lots of 160 acres for many years, but have not been heretofore taken up to any great extent because of the fact that a quarter-section is not sufficient to use profitably for cattle-raising purposes.

The rainfall in this part of the state is not sufficient for successful farming except by the advanced methods of scientific dry farming, and it is on this account that the Kinkaid Bill has been passed, **with the result that a Nebraska cattle ranch, one mile square, absolutely free, is the offer which the Government makes to every man or head of a family in the United States.**

From the 8,500,000 acres of these lands, any one desiring to become possessor of a section of grazing land should have no trouble in finding a tract suitable to his taste, and now that the practical merits of dry-farming methods have become established clearly, the value of these lands for agricultural purposes has become much greater than ever before.

As an example of the quality of the lands, Rock County actually ships more hay to market via The North-Western Line from the town of Newport than is shipped to market from any other one point anywhere in the world; while one of the finest potato-raising districts in the West has its shipping center at Gordon, in Sheridan County.

Such towns as O'Neill, Long Pine, Valentine, Rushville, Chadron and Lusk are well equipped with stores, banks, schools and churches, and the whole region is well populated.

Public lands in Nebraska in counties reached by the North-Western Line, that are subject to settlement under the homestead laws under the Kinkaid bill:

Holt	12,000 acres.
Rock	4,000 acres.
Keya Paha	38,040 acres.
Sheridan	164,286 acres.
Sioux	417,620 acres.
Boyd	700 acres.
Brown	81,450 acres.
Cherry	1,015,582 acres.
Dawes	9,000 acres.

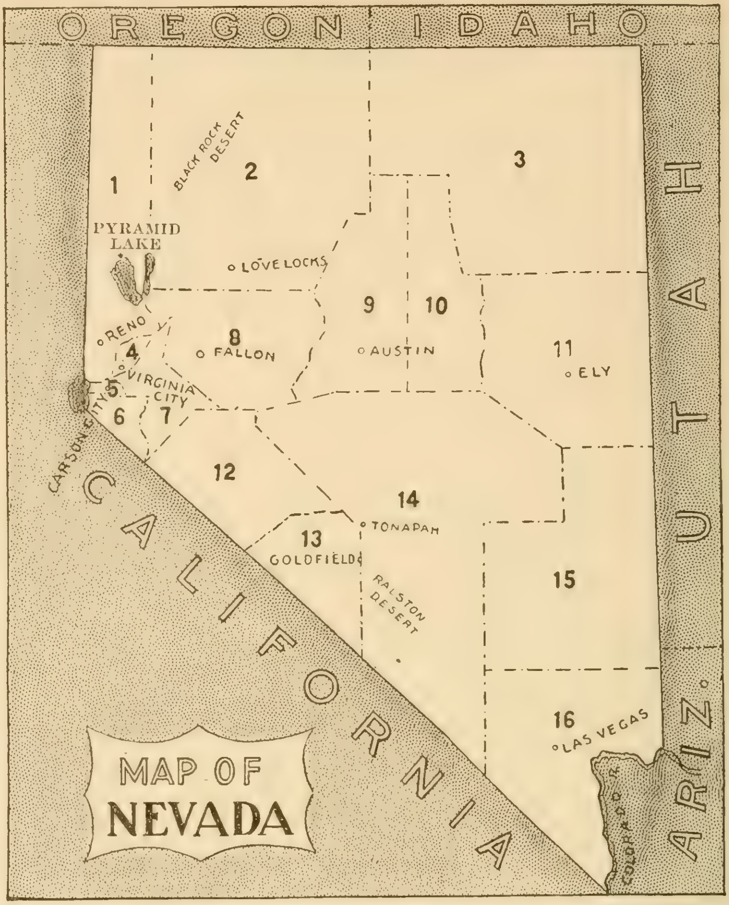
Every man or unmarried woman, over the age of 21; every married man under the age of 21; every widow, every minor orphan child of a deceased soldier, or any person who is the head of a family by adoption of a minor child, not already owning more than 160 acres of land and who is a citizen of the United States, may homestead 640 acres of this land, for the same fee charged by the Government for 160 acres in other states. The amount of this fee is $14.

STATE AND THE 16 COUNTIES OF NEVADA

With Their Boundaries

Location and Population of NEVADA COUNTIES

Location	COUNTIES	Pop. 1910
1	Washoe	17,434
2	Humboldt	6,825
3	Elko	8,133
4	Storey	3,045
5	Ormsby	3,089
6	Douglas	1,895
7	Lyon	3,568
8	Churchill	2,811
9	Lander	1,786
10	Eureka	1,830
11	White Pine	7,441
12	Mineral	... ...
13	Esmeralda	9,695
14	Nye	7,513
15	Lincoln	3,489
16	Clark	3,821
	Total	81,875



NEVADA CITIES AND VILLAGES WITH 1910 POPULATIONS.

Towns	*Loca.*	*Pop.*
A		
Atlanta	15	209
*Austin	9	1,215
B		
Bannock	9	250
Battle Mountain	9	360
Bauvard	3	208
Beatty	14	302
Black Horse	11	390
Blair	13	560
Buckskin	6	296
C		
Caliente	15	598
*Carson City (capital)	5	2,466
Cherry Creek	11	350
Columbia	13	1,099
D		
*Dayton	7	576
Delamar	15	709
E		
East Ely	11	1,560
*Elko	3	1,677
*Ely	11	2,055
Empire	5	327
*Eureka	10	1,609
F		
*Fallon	8	741
Farrell	2	268
G		
Gardnerville	6	210
*Genoa	6	434
Glenbrook	6	223
Golconda	2	890
*Goldfield	13	4,838
Gold Hill	4	2,078
Granite	13	202
H		
*Hawthorne	12	1,099
I		
Imlay	2	250
J		
Jarbridge	3	390
L		
*Las Vegas	16	1,500
Lida	13	224
Lovelocks	2	1,660
Luckyboy	12	899
M		
McGill	11	2,209
Manhattan	14	730
Mazuma	2	208
N		
Nelson	16	250
O		
Owyhee	3	506
P		
Panaca	15	350
Paradise Valley	2	690
Pinegrove	12	200
*Pioche	15	1,060
Pioneer	14	1,260
R		
Rawhide	12	5,090
*Reno	1	10,867
Rhyolite	14	808
Round Mountain	14	622
S		
Schurz	12	633
Searchlight	16	387
Silver City	7	342
Sparks	1	2,506
Stillwater	8	216
T		
*Tonopah	14	3,906
Tuscarora	3	308
V		
Verdi	1	566
*Virginia City	4	2,244
W		
Wadsworth	1	1,309
Wellington	7	260
Wells	3	254
*Winnemucca	2	1,786
Y		
Yerington	7	682

NEVADA

Down on the western slope of the Rocky Mountains lies a great state called Nevada. **In the far-away-back,** in the past, many thousands of years ago, when the earth was gradually cooling, the interior heat, in finding vent on the earth's surface, sputtered up through this portion of the earth's crust, and finally left immense elevations, known as the **Sierra Nevada** and Rocky Mountains.

Naturally, when elevations are made there are valleys between, and with plenty of room on this part of the globe, the valleys are broad. Out of the tops of these elevations volcanic fires threw lava which, during the many centuries that these mountain chimneys emitted ashes, settled into the depressions and elevated the floors of the valleys until, in the final cooling of the whole region, these valleys are vast plateaus, elevated 4,000 feet above the sea.

MOUNTAINS STEAL THE MOISTURE.

As clouds cross the elevations the mountains arrest their progress, cause precipitation of cloud moisture which, in the cold upper air, **turns to snow.** Thus the tall mountains, absorbing the moisture from passing clouds, nothing or little of moisture is left for rainfall in the valleys.

Such is the topography and such are the atmospheric conditions in many portions of the Rocky Mountain region. Tall mountains covered with perpetual snow which melting in the summer sunshine causes the continual and rapid flow of great rivers in the valleys, while lowlands suffering from lack of moisture remain a desert waste.

This whole area occupied by Nevada was ceded to the United States by Mexico in 1848 and settled by Mormons who, in passing across the country had found tracts of land that they deemed favorable for agriculture.

The valley lands of Nevada are from **one** mile to twenty-five miles wide, the most of them easily cultivated and wonderfully productive. One of the largest of these valleys is in the western part of the state, and mostly in Churchill County,. **This is known** as the Carson Sink Valley covering an area of several hundred thousand acres.

This valley is the bed of a **great lake,** long since dried up. There is no outlet to the valley and the water which empties on to the plain from the Sierra Nevada Mountains, sinks into the sands of the desert or are lost by evaporation.

WHY AIR IS SO CLEAR IN NEVADA.

The clouds having given up their moisture and been dispelled on the mountains thus leaves a perfectly clear atmosphere and bright sunshine for more than 300 days in the year. The result is extraordinary growth of all agricultural products, if water can be supplied; but water **must be abundant** or evaporation will leave the land barren.

EXTENSIVE SYSTEM OF IRRIGATION.

Seeing the effect of irrigation on a small scale, some of the enterprising citizens of the State induced the general government to turn the Truckee River into the Carson River, and holding the waters of the combined streams in lakes and large reservoirs, irrigate the great plain in the Carson Sink Valley, comprising 350,000 acres, 340,000 of which acreage yet belongs to the government. Some 58,000 acres of this irrigated land is owned by the railroads and private parties who **want to sell** their lands and bring in settlers. See the **Nevada-Truckee-Carson Project** in our chapter on irrigation.

This Truckee-Carson Government irrigation project is one of the largest ever undertaken, and will, when fully completed, cost the government about $9,000,000; but the **great amount** of land which will be reclaimed and the prices at which it will sell, will fully pay the cost.

The Chamber of Commerce at Fallon, Nevada, and the Southern Pacific Railroad Company are sending out particulars as to this large area of land just opened to the public.

From one of the circulars being sent out we quote the following:

UNCLE SAM'S NINE MILLION DOLLAR FARM.

"Is he going to farm it himself? Oh, no; as soon as he has turned the water on it from the big reservoirs he has been building, he is going to give it away to the people of the United States.

"How can you get a part of it? Just as easy—if you are a citizen and he has not already given you a homestead in another place, you need simply tell the agent at the land office in Carson or the agent for the big farm at Fallon, that you want eighty acres of good land. Pick out the eighty acres first that you want and tell him just where it is. Then pay him eight dollars for papers showing that Uncle Sam has agreed to give you that land if you begin living on it within six months and make it a home for the next five years.

"Is that all that Uncle Sam charges? That is all for the land—eight dollars. For the water that he puts on the land to make things grow, he charges you $2.60 per acre every year for ten years. Then the water and land belong to one another and both belong to you. After the tenth year the only charge will be a few cents per acre to keep up the ditches and reservoirs.

"Where is this new farm that Uncle Sam is giving away?

"It is in Western Nevada, mostly in Churchill County, south of the Southern Pacific's main line.

"**Maybe you'd like to work** for wages part of your time?

"If so, you don't have to hunt work; it will be looking for you down every road.

WAGES PAID TO WORKMEN.

"Uncle Sam would like five hundred more men to work on the irrigation system during the next two years. Then there are plenty of **new-comers** who would like to hire help; may be to clear, level and check land, to plant or care for crops, to build houses, or to drive teams. The wages paid are as follows:

"Carpenters, per day, $4; bricklayers, per day, $5.50; painters, per day, $4.50; masons, per day, $4.50; blacksmiths, per day, $4; cabinet makers, per day, $5; teamsters, per day, $2.50; common laborers, per day, $2.25; farm hands, per day, with board, $2; farm hands, per month, with board and lodging, $45.

"Then, for variety's sake, you can find work in the mines if you wish—though mining with a plow and a hoe may be most profitable in the long run.

"**Fallon, the principal town,** is county seat of Churchill County and has already more than a thousand people. Here are a high school, graded schools, churches, two newspapers, a bank, several stores, three hotels, restaurants, etc. Hazen has three hundred people and a hotel and restaurant. Stillwater, fourteen miles northeast of Fallon, has a hotel, stores and a good school. There are postoffices at Leetville, St. Clair and Hill.

"There are openings now for a flour mill, grain warehouse, and many other industries in demand in a new country.

"It requires but very little imagination to see this great plain thickly settled with a people having every rural comfort—a valley of waving fields and great orchards, turnpikes lined with trees, homes bright with flowers and such green lawns as only land of ever-living water can own, streams flowing as silver ribbons everywhere.

"The Carson Sink Valley which now has a population of less than 2,000 people will within a comparatively few years have 100,000 people, and 300,000 acres of desert land will have been converted into rich and valuable farms, by the magic of irrigation.

"Address all communications to J. W. Sitton, Secretary Churchill County Chamber of Commerce, Fallon, Nevada."

CONDENSED IMPORTANT FACTS RELATING TO NEVADA.

With History of the Great Comstock Gold and Silver Mines.

Altitude. Highest point, Wheeler Peak in White Pine County, 13,036 feet high.

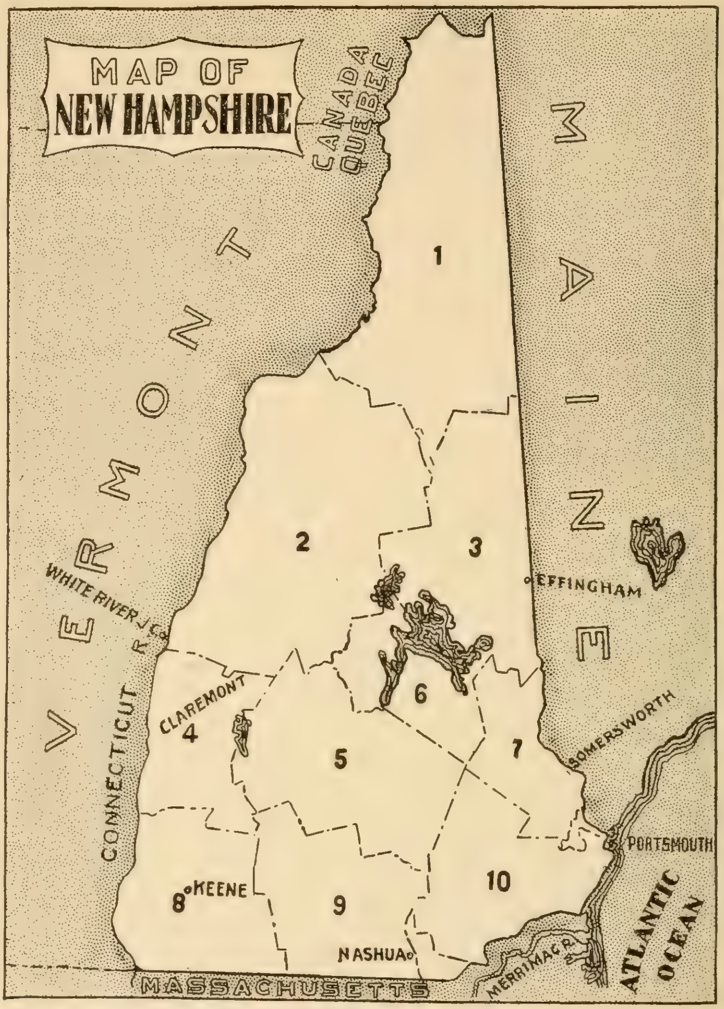
Climate. At Winnemucca, average temperature in January, 28 above zero. Average July temperature, 72. Extremes, highest, 104; lowest, 28 below. Average annual rainfall, 8.5 inches.

Dimensions. Extreme length of state north to south, 485 miles. Extreme breadth, 315 miles.

History. Territory ceded by Mexico to the United States in 1848. First settlers, 1848, in Carson Valley. Comstock lode discovered in 1859 by Grosh Brothers from Maine. One brother froze to death in the Sierras, the other died of blood poisoning from injuring his foot with a rusty pick. The spot where the main shaft to the Virginia mine was sunk was located by Pat McLaughlin and Pete O'Riley. While washing out some pay dirt, Henry Comstock happened along and seeing the glint of color in the rocks, dismounted from his pony and coolly informed the workers that they were trespassing upon his farm and using the water from his stream because, forsooth, he owned all the land thereabouts by right of agricultural location. This was pure fiction and a monumental bluff, but the overanxious discoverers promptly donated him a two-thirds interest in the greatest mineral discovery in America. Comstock was a lank, lean, cadaverous, untutored and unwashed Canadian possessed, according to John L. Cowan, who, in writing up "the romance of mining strikes," of neither honor, brains or industry. He afterwards went crazy and committed suicide. O'Riley died in an insane asylum. McLaughlin got down and out and did odd jobs about the camp for a time, and then drifted out to California where he died in a poorhouse. In the meantime the Comstock, the most valuable silver bearing lode in the world, for a long time yielded a profit of $16,000,000 a year. Nevada was admitted to the Union in 1864.

STATE AND THE 10 COUNTIES OF NEW HAMPSHIRE

With Their Boundaries



Location and Population of NEW HAMPSHIRE COUNTIES.

Location	COUNTIES	Pop. 1910
1	Coos	30,753
2	Grafton	41,652
3	Carroll	16,316
4	Sullivan	19,337
5	Merrimack	53,335
6	Belknap	21,309
7	Strafford	38,951
8	Cheshire	30,659
9	Hillsboro	126,072
10	Rockingham	52,188
	Total	430,572

CITIES AND VILLAGES OF NEW HAMPSHIRE. With 1910 Populations.

NEW HAMPSHIRE CITIES AND VILLAGES WITH 1910 POPULATIONS.

Towns	*Loca.*	*Pop.*
A		
Acworth	4	250
Alexandria	2	630
Alstead	8	500
Alton	6	402
Alton Bay	6	260
Amherst	9	1,109
Andover	5	350
Antrim	9	990
Ashland	2	1,289
Ashuelot	8	374
Atkinson	10	442
Auburn	10	682
B		
Barnstead	6	280
Barrington Sta.	7	550
Barrington	7	308
Bartlett	3	713
Bath	2	906
Bedford	9	1,148
Belmont	6	1,294
Bennington	9	667
Benton	2	209
Berlin	1	11,780
Bethlehem	2	1,061
Blackmount	2	608
Boscawen	5	1,355
Bow	5	317
Bow Mills	5	380
Bradford	5	805
Brentwood	10	557
Bridgewater	2	244
Bristol	2	1,690
Brookfield	3	296
Brookline	9	606
C		
Campton	2	502
Canaan	2	1,066
Candia	10	460
Candia Village	10	260
Canterbury	5	621
Cen. Barnstead	6	309
Center Conway	3	200
Center Harbor	6	290
Cen. Sandwich	3	502
Center Stafford	7	350
Center Tuftonboro	3	260
Charlestown	4	1,660
Chester	10	809
Chesterfield	8	281
Claremont	4	7,529
Clarksville	1	307
Colebrook	1	1,876
Columbia	1	590
Concord (Capital)	5	21,497
Contoocook	5	952
Conway	3	3,413
Conway Center	3	200
Coos	1	590
Cornish Flat	4	450
Croydon	4	272
D		
Dalton	1	392
Danbury	5	506
Danville	10	290
Davisville	5	266
Deerfield	10	462
Deerfield Cent.	10	350
Derry	10	2,066
Dorchester	2	250
*Dover	7	13,247
Doverpoint	7	1,069
Drewsville	8	296
Dublin	8	620
Dummer	1	349
Dunbarton	5	451
Durham	7	996
E		
East Alstead	8	260
East Andover	5	350
East Barringt'n	7	550
East Candia	10	409
East Concord	5	509
East Deering	9	286
East Derry	10	583
East Grafton	2	348
E. Hampstead	10	250
East Jaffrey	8	1,741
East Kingston	10	496
Easton	2	290
East Rochester	7	1,066
East Sullivan	8	287
East Swanzey	8	308
East Tilton	6	299
E. Washington	4	299
East Weare	9	408
Enfield	2	945
Enfield Center	2	809
Epping	10	1,109
Epsom	5	320
Errol	1	305
*Exeter	10	4,897
F		
Fabyan House	1	250
Farmington	7	2,621
Fitzwillian	8	450
Fitzwil'm Depot	8	508
Francestown	9	693
Franconia	2	669

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

New Hampshire Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Franklin	5	6,132
Freedom	3	550
Fremont	10	749
G		
Gaza	6	244
Georges Mills	4	296
Gilford	6	466
Gilmanton Iron Works	6	366
Gilsum	8	590
Goffs Falls	9	269
Goffstown	9	2,579
Gonic	7	460
Gorham	1	1,797
Goshen	4	245
Gossville	5	368
Grafton	2	396
Grantham	4	274
Grasmere	9	490
Greenfield	9	605
Greenland	10	507
Greenville	9	1,608
Groveton	1	1,809
H		
Halcyon	5	350
Hampstead	10	323
Ham'ste'd Sta.	10	250
Hampton	10	1,209
Ham'ton Falls	10	560
Hancock	9	2,609
Harrisville	8	606
Haverhill	2	3,948
Henniker	5	1,357
Hill	5	603
Hillsboro	9	1,608
Hillsboro Lower Vil'ge	9	590
Hinsdale	8	2,309
Holderness	2	612
Hollis	9	860
Hookset	5	1,655
Hopkinton	5	606
Hudson	9	1,096
Hudson Center	9	261
I		
Intervale	3	296
J		
Jackson	3	622
Jefferson	1	690
K		
*Keene	8	10,068
Kensington	10	524
Kingston	10	1,096
L		
*Laconia	6	10,183
Lakeport	6	2,256
*Lancaster	1	3,054
Landaff	2	568
Langdon	4	339
Lebanon	2	5,718
Lee	7	250
Lee Station	7	250
Lincoln	2	490
Lisbon	2	1,821
Littleton	2	3,059
Lochmere	6	206
Londonderry	10	1,358
Loudon	5	890
Lyman	2	426
Lyme	2	906
M		
Madbury	7	336
Madison	3	220
Madison Sta.	3	360
Manchester	9	70,063
Marlboro	8	1,224
Marlboro Depot	8	360
Marlow	8	488
Mason	9	358
Melvin Village	3	313
Meredith	6	709
Meriden	4	609
Merrimack	9	508
Middleton	7	390
Milan	1	635
Milford	9	3,939
Milton	7	825
Milton Mills	7	890
Monroe	2	402
Montview	2	402
Moultonboro	3	651
Moultonville	3	396
Mountainview	3	306
Mount Vernon	9	453
Mount Whittier	3	390
N		
*Nashua	9	26,005
New Boston	9	1,002
New Castle	10	581
New Durham	7	575
Newfields	10	590
New Hampton	6	706
New Ipswich	9	811
New London	5	606
New Market	10	3,348
*Newport	4	3,765
Newton	10	750
N. Charlestown	4	200
North Chatham	3	200
N. Chichester	5	499
North Conway	3	1,400
North Danville	10	269
N. Hampton	10	306
N. Haverhill	2	690
North Salem	10	490
N. Sanbornton	6	509
North Stratford	1	508
North Sutton	5	290
North Walpole	8	1,709
North Weare	9	606
Northwood	10	604
Northwood Narrows	10	302
N. Woodstock	2	409
Nottingham	10	590
O		
Orford	2	608
Orfordville	2	290
*Ossipee	3	308
P		
Parkhill	8	290
Pelham	9	875
Penacook	5	3.990
Percy	1	309
Peterboro	9	2,027
Piermont	2	637
Pike	2	580
Pittsburg	1	587
Pittsfield	5	2,079
Plainfield	4	464
Plymouth	2	1,927
Portsmouth	10	11,269
Potter Place	5	380
R		
Raymond	10	1,100
Reeds Ferry	9	405
Richmond	8	897
Rindge	8	390
Rochester	7	8,868
Rumney	2	360
Rumney Depot	2	240
Rye	10	1,090
Rye Beach	10	1,100
S		
Salem Depot	10	709
Salisbury	5	208
Salisbury Hghts	5	209
Salmon Falls	7	1,701
Sanbornville	3	509
Sandown	10	406
Sandwich	3	409
Scott	1	220
Seabrook	10	1,202
Shelburne	1	283
Silver Lake	3	306
Snowville	3	215
Somersworth	7	6,704
South Acworth	4	250
S. Charlestown	4	273
South Danville	10	215
S. Hampton	10	297
South Lee	7	250
S. Lyndeboro	9	516
S. Tamworth	3	460
Spofford	8	350
Stark	1	306
Strafford	7	450
Stratford	1	466
Stratham	10	718
Sugar Hill	2	306
Sunapee	4	696
Suncock	5	3,088
Surry	8	250
Sutton	5	490
Swanzey	8	309
T		
Tamworth	3	592
Temple	9	313
Tilton	6	1,209
Troy	8	1,527
Twin Mountain	1	260
U		
Union	3	409
Unity	4	472
W		
Walpole	8	2,668
Warner	5	833
Warren	2	699
Washington	4	264
Weare	9	390
Webb	8	306
Webster	5	496
Wentworth	2	617
W. Brentwood	10	250
W. Campton	2	206
W. Chesterfield	8	350
W. Claremont	4	598
West Epping	10	441
W. Hampstead	10	250
West Lebanon	2	590
West Milan	1	590
Westmoreland	8	375
West Ossipee	3	306
West Peterboro	9	506
West Rindge	8	390
W. Rochester	7	460
West Rumney	2	240
W. Springfield	4	219
W. Swanzey	8	770
West Thornton	2	452
Westville	10	300
Whitefield	1	2,006
Wilmot	5	396
Wilmot Flat	5	303
Wilton	9	1,596
Winchester	8	1,908
Windham	10	341
Windham Depot	10	200
Wolfboro Falls	3	380
Wolfboro	3	1,690
Woodstock	2	206
*Woodsville	2	1,709

NEW HAMPSHIRE

The "Granite State," Famous for Its White Mountains, Abandoned Farms, Summer Homes and Picturesque Resorts.

This State, famous for its granite stone, which early gave it the name, "Granite State," **distinguished** for its Dartmouth College, its White Mountains and its Merrimac River, which turns the **greatest number** of mill wheels of any river in the world—with its Winnipeseogee Lake, covering 72 square miles, up in Belknap County (see County 6) and Sunape Lake (area, 11 square miles) in Merrimack County, a county remarkable for having within its borders over **300** lakes and ponds, **60** rivers, **190** brooks and **290** mountains.

MOST PICTURESQUE REGION IN THE WORLD.

As a whole, New Hampshire, with its mountains, rivers, brooks and groves of maples, willows, elms and evergreens, is the **most romantic** and beautifully picturesque region on the American Continent.

For delightful summer residence the **entire state** is becoming celebrated. Pitch tent almost anywhere and the visitor has sublime mountain view, a little lake close by, an active, rippling, bubbling brook, with speckled trout, running across the farm.

A writer well acquainted with New Hampshire says: "The **fascination** of the state with a family coming here to spend a summer will so grow upon them that they may wish to remain permanently, winters, as well as summers. If so, the homeseeker may buy a little farm, abandoned by the family that has gone west and left their comfortable farm dwelling, their fine apple orchards, maple sugar groves—a snug, beautiful home with land enough to produce a living—all this offered for sale so cheap the land seeker will be surprised. **Let him** enter some employment for business exercise in the adjoining village, and when winter arrives with its snows, as the rural mail carrier brings the news from all the outside world, he sits down at evening with his family before the blazing hickory logs, giving a charming fire and heat, from the open fire place in the home. Add to this mealy potatoes, maple syrup, apples and hickory nuts, honey, pure cream, the sweetest butter and fresh eggs, all produced on his own property and—what more does he want?"

DEAL IN ABANDONED FARMS.

He may want a more **active** business possibly, something **more** extensive to occupy his mind than he finds in the little nearby village. For larger employment he buys the neighboring abandoned property, trims the orchards, fertilizes and reclaims the land, paints the houses and adds such attraction to the premises as modern ideas and taste will suggest. He may follow by selling.

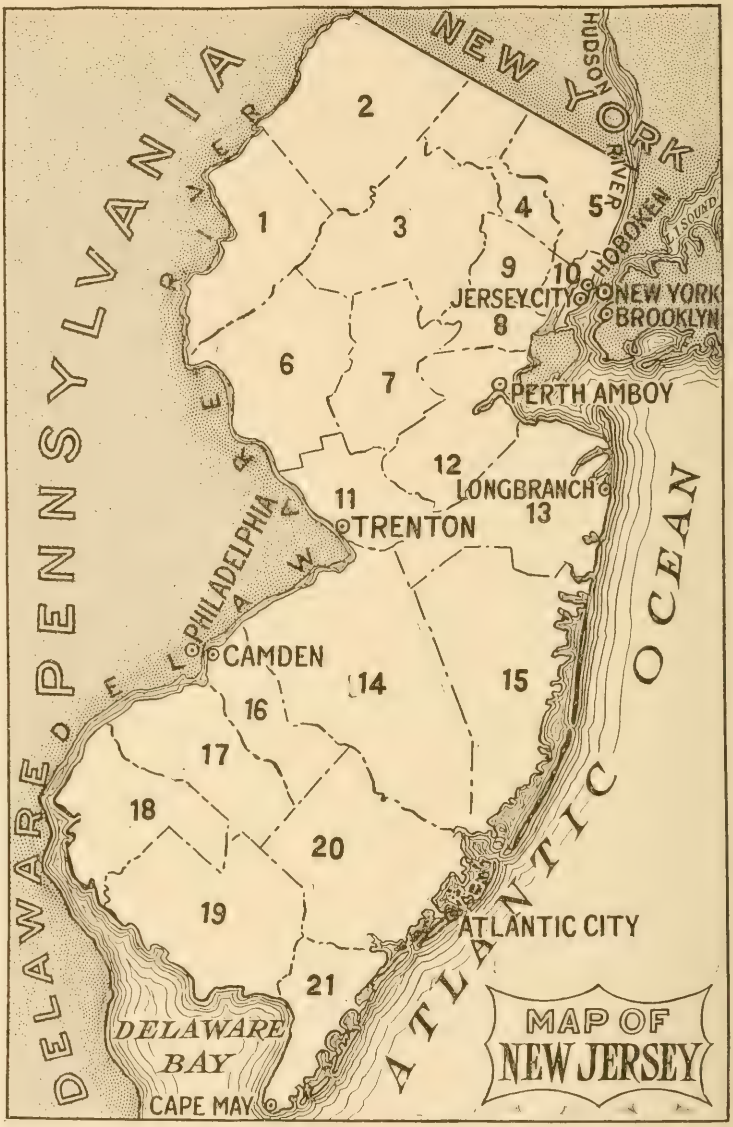
Altitude. Highest in the State, Mount Washington, 6,285 feet.

Climate. Manchester, average January temperature, 22 degrees above zero; July, 69 degrees. Highest, 96 degrees; lowest, 11 degrees below zero. Average annual rainfall, 41.9 inches.

Dimensions. Length, north to south, 180 miles. Breadth, from east to west, from 45 to 100 miles.

STATE AND THE 21 COUNTIES OF NEW JERSEY

With Their Boundaries



Location and Population of NEW JERSEY COUNTIES

ca-ca-tion	COUNTIES	Pop. 1910
1	Warren	43,187
2	Sussex	26,781
3	Morris	74,704
4	Passaic	215,902
5	Bergen	138,002
6	Hunterdon	33,569
7	Somerset	38,820
8	Union	140,197
9	Essex	512,886
10	Hudson	537,231
11	Mercer	125,657
12	Middlesex	114,426
13	Monmouth	94,734
14	Burlington	66,565
15	Ocean	21,318
16	Camden	142,029
17	Gloucester	37,368
18	Salem	26,999
19	Cumberland	55,153
20	Atlantic	11,894
21	Cape May	19,945
	Total	2,537,167

Cities and Villages of New Jersey with 1910 Populations.

Towns	*Loca.*	*Pop.*
A		
Absecon	20	781
Adelphia	13	450
Allamuchy	1	260
Allendale	5	937
Allenhurst	13	306
Allentown	13	631
Alliance	18	406
Alloway	18	662
Alpha	1	760
Alpine	5	377
Andover	2	884
Annandale	6	375
Ardena	13	506
Arlington	10	3,066
Asbury	1	575
Asbury Park	13	10,150
Ashland	16	320
Atco	16	606
Athenia	4	608
Atlantic City	20	46,150
Atlantic Highlands	13	1,645
Audubon	16	1,343
Avalon	21	230
Avon	13	426
B		
Barnegat	15	1,066
Barnsboro	17	206
Basking Ridge	7	640
Bayhead	15	281
Bayonne	10	55,545
Bayville	15	200
Beachhaven	15	272
Beemerville	2	250
Beesley's Point	21	350
Belford	13	250
Belleville	9	5,907
Belmar	13	1,433
*Belvidere	1	1,764
Bennett	21	225
Bergenfield	5	1,991
Berkley Heights	8	362
Berlin	16	890
Bernardsville	7	1,062

CITIES AND VILLAGES OF NEW JERSEY WITH 1910 POPULATIONS.

Towns	*Loca.*	*Pop.*
Bethlehem	6	1,761
Beverly	14	2,140
Birmingham	14	215
Bivalve	19	200
Blackwells Mills	7	225
Blackwood	16	609
Blairstown	1	896
Bloomfield	9	15,070
Bloomingdale	4	333
Bloomsbury	6	660
Blue Anchor	16	250
Bogota	5	1,125
Boonton	3	4,930
Bordentown	14	4,250
Boundbrook	7	3,970
Bradley Beach	13	1,807
Branchville	2	663
Bridgeboro	14	275
Bridgeport	14	275
Bridgeport	17	638
*Bridgeton	19	14,209
Brielle	13	360
Broadway	1	209
Brookdale	9	250
Brown Mills	14	390
Browntown	12	206
Buddtown	14	250

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of New Jersey with 1910 Populations

Towns	*Loca.*	*Pop.*
Burlington	14	8,336
Burrsville	15	290
Butler	3	2,265
Buttzville	1	366
C		
Caldwell	9	2,236
Califon	6	506
*Camden	16	94,538
Cape May	21	2,471
Cape May C. H.	21	1,008
Carlstadt	5	3,807
Carmel	19	750
Carpentersville	1	201
Carteret	12	5,066
Cassville	15	262
Cedar Brook	16	466
Cedargrove	9	569
Cedarville	19	1,278
Changewater	1	203
Chapel Hill	13	208
Chatham	3	1,874
Chatsworth	14	958
Cheesequake	12	290
Chesilhurst	16	246
Chester	3	1,409
Chews	16	409
Chrome	12	399
Clarksboro	17	262
Clarksburg	13	250
Clayton	17	1,926
Clementon	16	562
Clermont	21	360
Cliffside	5	2,128
Cliffside Park	5	3,394
Clifton	4	500
Clinton	6	836
Closter	5	1,483
Colesville	2	290
Collingswood	16	4,795
Colonia	12	296
Columbia	1	292
Columbus	14	535
Como	13	225
Coytesville	5	750
Cranbury	12	1,428
Cranford	8	2,854
Cresskill	5	550
Crosskeys	17	250
Crosswicks	14	566
D		
Dayton	12	350
Deal Beach	13	273
Delair	16	230
Delanco	14	750
Delawanna	4	702
Delaware	1	406
Delford	5	1,005
Delmont	19	569
Demarest	5	569
Dennisville	21	860
Denville	3	627
Dias Creek	21	250
Dividing Creek	19	791
Dorchester	19	326
Dorothy	20	206
Dover	3	7,468
Dumont	5	1,783
Dundee Lake	5	420
Dunellen	12	1,990
E		
East Creek	21	411
East Millstone	7	356
East Newark	10	3,163
East Nutley	9	760
East Orange	9	34,371
East Rutherford	5	4,275
Eatontown	13	1,206
Edgewater	5	2,655
Edgewater Park	14	200
Egg Harbor City	20	2,181
*Elizabeth	8	73,409
Ellisdale	13	350
Elm	16	221
Elmer	18	1,167
Elwood	20	366
Emerson	5	767
Englewood	5	9,924
Englewood Cliffs	5	410
English Creek	20	350
Englishtown	13	468
Erma	21	225
Essex Falls	9	442
Ewan	17	250
F		
Fair Haven	13	1,066
Fairton	19	506

Towns	*Loca.*	*Pop.*
Fairview	5	2,441
Fanwood	8	471
Far Hills	7	360
Farmingdale	13	416
Fieldsboro	14	480
Flanders	3	501
*Flemington	6	2,693
Florence	14	1,282
Florham Park	3	558
Folsom	20	232
Fords	12	750
Forked River	15	560
Fort Lee	5	4,472
Franklin Furnace	2	1,066
Franklin Park	12	221
Franklinville	17	390
*Freehold	13	3,233
Frenchtown	6	984
Freneau	13	290
G		
Garfield	5	10,213
Georgetown	14	1,118
German Valley	3	575
Gibbsboro	16	308
Gibbstown	17	226
Glassboro	17	2,706
Glendola	13	250
Glen Gardner	6	600
Glen Ridge	9	3,260
Glenrock	4	1,055
Glenwood	2	360
Gloucester City	16	9,462
Goshen	21	580
Grantwood	5	1,502
Green Creek	21	360
Greenwich	19	1,200
Grenlock	16	266
Griggstown	7	362
Groveville	11	320
Guttenberg	10	5,647
H		
*Hackensack	5	14,050
Hackettstown	1	2,715
Haddonfield	16	4,142
Haddon Heights	16	1,452
Hainesburg	1	360
Hainesport	14	566
Hainesville	2	326
Haledon	4	2,560
Haleyville	19	322
Hamburg	2	866
Hamilton	13	250
Hamilton Square	11	425
Hammonton	20	5,088
Hampton	6	914
Hanover	3	5,366
Hanover Neck	3	213
Hardwick	1	470
Harlingen	7	280
Harmony	1	1,110
Harrington	5	377
Harrison	10	14,498
Harrisonville	17	320
Hasbrouck Heights	5	2,155
Haworth	5	588
Hawthorne	4	3,460
Hazlet	13	208
Heislerville	19	414
Helmetta	12	661
Herbertsville	15	262
Hewitt	4	206
Hibernia	3	1,389
High Bridge	6	1,545
Highland Park	12	1,517
Highlands	13	1,215
Highlands of Navesink	13	1,386
High Point	15	560
Hightstown	11	1,879
Highwood	5	460
Hillsdale	5	945
Hilton	9	216
Hoboken	10	70,324
Hohokus	5	488
Holland	6	1,706
Holly Beach	21	1,901
Holmdel	13	1,066
Homestead	10	350
Hope	1	350
Hopewell	11	1,073
Hudson Heights	10	1,502
Hurffville	17	280
I		
Irvington	9	11,877
Island Heights	15	313

Towns	*Loca.*	*Pop.*
J		
Jamesburg	12	2,075
Janvier	17	208
*Jersey City	10	267,779
Jobstown	14	290
Juliustown	14	998
K		
Keansburg	13	509
Kearney Jct.	10	18,659
Kenvil	8	341
Keyport	13	3,554
Kingsland	5	809
Kingston	7	308
Kingwood	6	1,375
Kresson	16	390
L		
La Fayette	2	709
Lake Como	13	225
Lakehurst	15	979
Lakewood	15	3,096
Lambertville	6	4,657
Lanoka	15	262
Laurel Springs	16	225
Lawnside	16	320
Lawrence Sta.	11	250
Lawrenceville	11	360
Layton	2	315
Lebanon	6	360
Ledgewood	3	406
Leeds Point	20	366
Leesburg	19	662
Lenardo	13	280
Leonia	5	1,486
Liberty Corner	7	260
Lincoln	12	209
Linden	8	610
Lindenwold	16	308
Linwood	20	602
Little Falls	4	4,660
Little Ferry	5	2,541
Little Silver	13	426
Livingston	9	1,412
Lodi	5	4,138
Long Branch	13	13,298
Lower Squankum	13	250
Ludlow	6	222
Lumberton	14	850
Lyndhurst	5	1,350
Lyons Farms	8	462
M		
McAlfee	2	260
Madison	3	4,658
Magnolia	16	606
Mahwah	5	550
Malaga	17	409
Manahawkin	15	808
Manalapan	13	390
Manasquan	13	1,582
Mantua	17	750
Maple Shade	14	290
Marlboro	13	496
Marlton	14	760
Marmora	21	202
Matawan	13	1,646
Maurice River	19	2,116
Mauricetown	19	554
*Mays Landing	20	1,359
Maywood	5	889
Medford	14	1,260
Mendham	3	1,129
Menlo Park	12	350
Merchantville	16	1,996
Metuchen	12	2,138
Middletown	13	409
Middle Valley	3	299
Midland Park	5	2,001
Midvale	4	420
Milford	6	667
Millburn	9	2,762
Millington	3	360
Milltown	12	1,584
Millville	19	12,451
Milton	3	362
Minotola	20	562
Monmouth Beach	13	485
Monmouth Jct.	12	466
Montague	2	208
Montclair	9	21,550
Montvale	5	522
Montville	3	685
Moonachie	5	638
Moorestown	14	2,809
Morris Plains	3	445
*Morristown	3	12,507
Mountainside	8	362
Mountainview	4	411

Towns	*Loca.*	*Pop.*
Mt. Arlington	3	277
Mt. Bethel	7	206
Mt. Ephraim	16	302
Mt. Freedom	3	202
*Mt. Holly	14	5,750
Mt. Hope	3	352
Mt. Laurel	14	250
Mt. Olive	3	1,221
Mt. Tabor	3	1,506
Mullica Hill	17	590
N		
National Park	17	325
Naughright	3	299
Navesink	13	622
Neptune City	13	488
Neshanic	7	362
Netcong	3	1,532
Netherwood	8	941
*Newark	9	347,469
New Bedford	13	225
Newbridge	5	525
*New Brunswick	12	23,388
New Durham	10	4,060
New Egypt	15	890
Newfield	17	509
Newfoundland	3	564
New Germantown	6	306
New Gretna	14	950
New Market	12	509
New Milford	5	322
Newport	19	1,017
New Providence	8	873
*Newton	2	4,467
North Arlington	5	437
North Branch	7	250
No. Caldwell	9	595
Northfield	20	866
No. Hackensack	5	350
No. Haledon	4	749
No. Paterson	4	1,288
No. Plainfield	7	6,117
Northvale	5	460
No. Wildwood	21	833
Norwood	5	564
Nutley	9	6,009
O		
Oakhurst	13	506
Oakland	5	568
Oaklyn	16	653
Oaktree	12	200
Ocean City	21	1,950
Ocean Grove	13	3,066
Oceanic	13	608
Oceanport	13	408
Ocean View	21	209
Oceanville	20	369
Ogdensburg	2	562
Old Bridge	12	1,062
Oradell	5	809
Orange	9	29,630
Osbornsville	15	596
Oxford	1	2,040
P		
Palisade	5	250
Palisades Park	5	1,411
Palmyra	14	1,650
Park Ridge	5	1,401
Parsippany	3	206
Passaic	4	54,773
*Paterson	4	125,600
Pattenburg	6	309
Paulsboro	17	2,121
Peapack	7	247
Pedricktown	19	660
Peetzburg	5	367
Pemberton	14	797
Penn Grove	18	2,118
Pennington	11	722
Pennsville	18	466
Pensauken	16	526
Penwell	1	250
Perrinville	13	260
Perth Amboy	12	32,121
Petersburg	21	375
Phillipsburg	1	13,903
Pinebrook	3	272
Pitman	17	1,950
Pitman Grove	17	2,506
Plainfield	8	20,550
Pleasant Mills	20	208
Pleasantville	20	4,390
Point Pleasant	15	745
Pointville	14	380
Pomerania	20	390
Pompton Lakes	4	1,060
Pompton Plains	3	320

Cities and Villages of New Jersey with 1910 Populations

Towns	*Loca.*	*Pop.*
Port Elizabeth	19	550
Port Monmouth	13	650
Port Morris	3	556
Port Murry	1	304
Port Norris	19	1,509
Port Republic	20	450
Pottersville	7	280
Princeton	11	5,136
Prospect Park	4	2,719
Q		
Quakertown	6	250
Quinton	18	1,307
R		
Rahway	8	9,337
Ramsey	5	1,667
Rancocas	14	325
Raritan	7	3,672
Readington	6	2,776
Reaville	6	360
Red Bank	13	7,398
Richfield	4	201
Ridgefield	5	966
Ridgefield Park	5	2,850
Ridgewood	5	5,416
Riegelsville	1	562
Ringoes	6	325
Ringwood Manor	4	207
Rio Grande	21	241
Risley	20	209
River Edge	5	375
Riverside	14	4,069
Riverton	14	1,788
Rivervale	5	350
Roadstown	19	218
Rochelle Park	5	360
Rockaway	3	1,902
Rocky Hill	7	502
Roebling	14	750
Roosevelt	12	5,786
Roseland	9	486
Roselle	8	2,725
Roselle Park	8	3,138
Rosenhayn	19	662
Rumson	13	1,419
Rutherford	5	7,015
S		
Saddle River	5	483
*Salem	18	6,614
Sayreville	12	4,155
Scotch Plains	8	1,099
Scullville	20	250
Sea Bright	13	1,220
Sea Isle City	21	551
Seaville	21	345
Seacaucus	10	4,740
Sergeantsville	6	266
Sewaren	12	250
Sewell	17	260
Shady Side	13	806
Sharptown	18	225
Shiloh	19	402
Short Hills	9	350
Shrewsbury	13	422
Sicklerville	16	229
Silver Lake	9	250
Silverton	15	290
Singac	4	207
Smiths Landing	20	490
Smithville	14	654
Somers Point	20	604
*Somerville	7	5,099
So. Amboy	12	7,007
Southard	13	406
So. Boundbrook	7	1,024
So. Branch	7	206
So. Dennis	21	308
So. Orange	9	6,014
So. Pemberton	14	771
So. Plainfield	12	308
South River	12	4,772
So. Seaville	21	498
So. Vineland	19	560
Sparta	2	606
Spotswood	12	623
Springfield	8	1,072
Spring Lake Beach	13	853
Springtown	1	306
Stanhope	2	1,021
Stanley	3	203
Stanwick	14	408
Steelmanville	20	490
Stewartsville	1	518
Stirling	3	540
Stockholm	2	425
Stockton	6	605
Succasunna	3	604
Summit	8	7,590
Sussex	2	1,212
Swainton	21	309
Swedesboro	17	1,477
T		
Tansboro	16	480
Tenaffy	5	2,759
Three Bridges	6	390
Tinton Falls	13	200
Titusville	11	366
*Toms River	15	1,806
Totowa Borough	4	1,130
Townley	8	309
Town of Union	6	17,005
Trenton (capital)	11	96,815
Tuckahoe	21	1,099
Tuckerton	15	1,268
U		
Union	8	4,315
V		
Van Hiseville	15	316
Vauxhall	8	666
Ventnor	20	491
Vernon	2	208
Verona	9	1,675
Vienna	1	390
Vincentown	14	990
Vineland	19	5,282
W		
Waldwick	5	950
Wallington	5	3,448
Wallpack Center	2	208
Wanaque	4	490
Waretown	15	590
Washington	1	3,567
Waterford Works	16	380
Wayne	4	203
Wayside	13	208
Weehawken	10	4,508
Wenonah	17	645
W. Caldwell	9	494
W. Cape May	21	844
W. Collingswood	16	606
West Creek	15	507
Westfield	8	6,420
W. Freehold	13	206
W. Hoboken	10	35,403
West Long Branch	13	879
W. Milford	4	206
Westmont	16	275
W. Moorestown	14	2,800
W. New York	10	13,560
West Orange	9	10,980
West Paterson	4	406
West Point Pleasant	15	283
West Portal	6	1,761
Westville	17	820
Westwood	5	1,870
Weymouth	20	972
Wharton	3	2,983
Whippany	3	961
Whitehill	14	459
White House Station	6	350
Whitesville	15	208
Wilburtha	11	209
Wildwood	21	898
Williamstown	17	1,500
Windsor	11	360
Winslow	16	250
Woodbine	21	2,399
Woodbridge	12	7,631
*Woodbury	17	4,642
Woodcliff Lake	5	470
Wood Lynne	16	506
Woodridge	5	1,043
Woodstown	18	1,613
Wortendyke	5	450
Wrightstown	14	220
Wyckoff	5	352
Y		
Yardville	11	350

NEW JERSEY

Closely on the Edge of New York and Philadelphia, Great Markets for Fresh Fruits and Vegetables.

By virtue of its location New Jersey is a very important State. It has the Atlantic Ocean **on the east** and the Delaware River and Bay on the **west side.** It receives the **surplus** population of New York in the northern portion of the State and gets the **overflow** of people from Philadelphia in the south end of the State.

EASY TO GO ANYWHERE FROM NEW JERSEY.

It is easy to go anywhere from New Jersey. The State is covered with a network of railways. Steam and trolley lines lead to steamboat landings, whence people journey by water to all parts of the earth, while railroad lines radiate from New York and Philadelphia in all directions.

In the purchase of land and settlement in this State the home seekers will not fail to observe thus the superior facilities for transportation to the great markets.

AN EXCELLENT REGION FOR TRUCK FARMING

It is clearly evident that this must be an ideal region in which to engage in **truck farming.** While the soils in different parts of the State greatly differ in natural strength it is found that even on the extremely poorest land certain crops do well, and even the **sand barrens,** as they were called, have been found well **adapted** to fruit and vegetable gardening.

In natural fertility the central part of the State is best, but experience is proving that excellent crops are being grown on the **oak and pine** land in the southern part of the State, the result of intelligent cultivation.

Considering the great nearby markets it is well to engage in producing that which can be taken into the towns in the **early mornings** perfectly ripe and fresh.

FRESH FOODS ALWAYS IN IMMEDIATE DEMAND

Good milk and cream is always in demand; fresh eggs are always wanted. Vegetables just taken from the soil find **ready buyers.** Perfectly ripe fresh strawberries will make a reputation for the growers in a short time. Blackberries, peaches, melons and tomatoes are much **more highly valued** when they can come into the market **fresh** from the vines.

This certainly is a **great advantage** in behalf of New Jersey, the whole of the State having a soil on which can **easily** be grown all those products in the immediate vicinity of the hundreds of thousands of people who are **ready to buy.**

There are always certain people who want to go West, the result being that properties in the Eastern States are vacated and farms, including sometimes 20, 50 and a hundred acres are thrown on the market at a price often far **below what it would cost** to erect the buildings.

To show how cheaply such properties may be bought we pursue the plan of selecting from advertisements a sample list of cheap small farms which we publish herewith. See advertisements, with our description of some of the Eastern States, which we copy to give readers to understand what is in the market and for sale. Very full lists can usually be obtained by application to the Secretary of State.

Originally we had not thought of giving the name of a real estate dealer, the public being of the opinion, we thought, that this work was simply an advertising medium for real estate, but subsequent consideration convinced us that our work would be much more valuable to the land-seeker were we to give, with description of land, prices at which they could be bought and of whom they could be obtained. Hence our real estate mention of various properties for sale, through a study of which the reader can learn from whom the lands we mention can be bought.

In our description of lands, States and localities we aim to give also the **opportunities** existing in that region for getting **employment** outside of cultivating the soil. Hence we dwell considerably on the manufacturing facilities and other enterprises going forward in every section of the country.

New Jersey Opportunities in Agriculture and Varied Enterprises

OPPORTUNITIES FOR EMPLOYMENT IN NEW JERSEY.

We may mention right here that New Jersey affords common labor and skilled mechanics superior opportunities for getting employment, and, aside from cultivating the land, various members of the household may obtain work and get good wages in neighboring factories. As proof of this, statistics of one of the recent years show $715,060,170 invested here in manufacturing, employing 266,336 wage earners, to whom was paid that year $128,168,801.

Our space does not permit us to enumerate the many branches of manufacture going forward in New Jersey. We can only briefly say here are made hats, here are extensive silk and glass works, brass and iron works, hardware, machinery, leather, jewelry and celluloid goods being made in great variety, besides pottery, drugs and chemicals. **Besides** being the foremost city in America in the **manufacture of silks,** Paterson is widely renowned for its cotton, woolen, velvet, paper mills and locomotive works.

New Jersey Health and Pleasure Resorts

SEVERAL OF THE MOST POPULAR PLEASURE RESORTS ARE IN NEW JERSEY.

Barnegat City Beach, N. J.—On the New Jersey seacoast, three miles from Barnegat City, and fourteen miles from Barnegat Bay station on the Pennsylvania Railroad (by steamer) this new summer resort invites visitors by its beautiful location, its numerous cottages and its still and surf bathing, hunting, fishing, boating and other recreations.

Long Branch, N. J.—Twenty-eight miles south of New York is Long Branch, an old town which for many years was one of the most popular of the summer resorts in the United States. The ocean beach here is admirably adapted to bathing, a fact appreciated by the people of New York, as seen in the great number of New Yorkers who come here from the metropolis regularly, daily and annually, for pleasure, rest and recreation. With the establishments of numerous manufacturing industries and the development of various resorts near New York, Long Branch is not spoken of as a pleasure resort so much as formerly. It retains, however, a large number of permanent residents in the old town about a mile back from the beach.

Pleasure Resorts.—Parties wishing to establish other resorts in New Jersey, may wish to know of the following:

Lakes in New Jersey.	Miles Long.	Miles Wide.
Budd's Lake, Morris Co	1½	¾
Denham Lake, Morris Co	¾	⅜
Dundee Lake, Passaic Co	2	⅛
Green Pond, Morris Co	3	1
Greenwood Lake, Passaic Co	9	1
Hopatcoug Lake, Morris Co	7	3
Splitrock Lake, Morris Co	2	½
Spring Lake, Monmouth Co	¾	⅛

Ocean Beach, N. J.—Eight miles south of Long Branch, near Shark River, and half a mile from the ocean, is located this recent acquisition to the watering-places of New Jersey, which is principally remarkable for good fishing facilities.

Ocean City, N. J.—Not many years ago, near Great Egg Harbor, opposite Somers Point, the Methodists established a pleasant religious resort, bearing the above name. It has a beach 7 miles long, smooth and hard, and handsome residences, abundant flowers and local celebrities, for attractions.

Atlantic City, N. J.—Between Long Branch and Cape May, on what is known as Absecom Beach, is located this attractive resort for invalids and tourists. Such are the advantages of its situation on the seacoast, that both summer and winter it receives many visitors. During the warm weather there is safe and delightful surf bathing, with notable facilities for sailing and fishing; while in the colder seasons the mild temperature, sunny skies and pleasant surroundings, make a sojourn there extremely agreeable. Atlantic City is a pleasant town, with handsome hotels, pretty cottages and wide and shady streets, suitable for long drives, and possesses very desirable accommodations for the throngs who visit it. The ease with which it may be reached from Philadelphia and New York add much to its popularity as a seaside resort.

Cape May, N. J.—For particular excellence in whatever pertains to a delightful seaside watering place, Cape May has become justly celebrated. All that nature has left undone, the improvement of the age has supplied, for the health, comfort and enjoyment of old and young. The beach ranks among the finest anywhere for the purposes of bathing, promenading or driving, while the city itself, with its broad avenues lying between lines of shade-trees, and abounding in handsome residences, hotels and ornamental grounds, invites thousands of gay and cultured people from all parts of the Union, to enjoy its beauties.

New Jersey Manufacturing Cities

Very plainly on our map of New Jersey are seen the locations of Hoboken, Jersey City, Perth Amboy, Trenton and Camden, all residence towns formerly, and suburbs of New York and Philadelphia. These towns have permitted the incoming of factories, and have increased in population accordingly, as seen by reference to our list of New Jersey cities.

Hoboken, N. J.—This city is only a quarter of a mile from New York with which it is closely connected by ferries. Originally a residence locality it is now noted for its lead pencil factory, iron foundries, paper mills, silk works and other factories.

Jersey City.—This town is situated on the West side of Hudson River, a mile from New York, with which city it is connected with ferries. Among its factories are watch-making, glass works, breweries, sugar refining, foundries and numerous other industries.

Perth Amboy, N. J.—This city was formerly called by the Indians Ambo. About 1680 it was settled by a colony from Scotland who gave the name Perth to the place, in honor of the earl of Perth, one of the colony proprietors. The Indian name was so much used, however, that finally the place taking both names, was named Perth Amboy. The place is noted for its manufacture of fire brick, stoneware and pottery.

Trenton, N. J.—Settled about 1680, this place was named in honor of William Trent, speaker of the house of assembly, in 1720. Was selected as the capital of the state in 1790, and incorporated as a city in 1792. This city is widely known for its manufacture of crockery.

Camden, N. J.—Situated on the left bank of the Delaware River, opposite the city of Philadelphia, with which city it is connected by several ferries. There are several iron foundries here, chemical and glass works, besides other factories. The town is handsomely located on a plain and is a beautiful residence city for great numbers of people from Philadelphia.

CONDENSED IMPORTANT FACTS RELATING TO NEW JERSEY.

Altitude. Highest point in New Jersey, Kittatinny Mountain, in Sussex Co., 1,527 feet.

Cities. Having 10,000 population in 1900, outside of county seats: Hoboken, Hudson Co., 59,364; Bayonne, Hudson Co., 32,722; Atlantic City, Atlantic Co., 27,838; Passaic, Passaic Co., 27,777; Orange, Essex Co., 24,141; West Hoboken, Hudson Co., 23,094; East Orange, Essex Co., 21,506; Perth Amboy, Middlesex Co., 17,699; Plainfield, Union Co., 15,369; Union, Union Co., 15,187; Montclair, Essex Co., 13,962; Kearney, Hudson Co., 10,896; Harrison, Hudson Co., 10,596; Millville, Cumberland Co., 10,583; Phillipsburg, Warren Co., 10,052.

Climate. Healthful and less extreme heat and less extreme cold than states inland. Average annual mean temperature, 51.94; winter, 31.22; summer, 72.01; extremes, Cape May, highest 96, lowest 7 below; yearly rainfall, 47.2 inches.

Dimensions. Extreme length of State, 160 miles; extreme width, 70 miles.

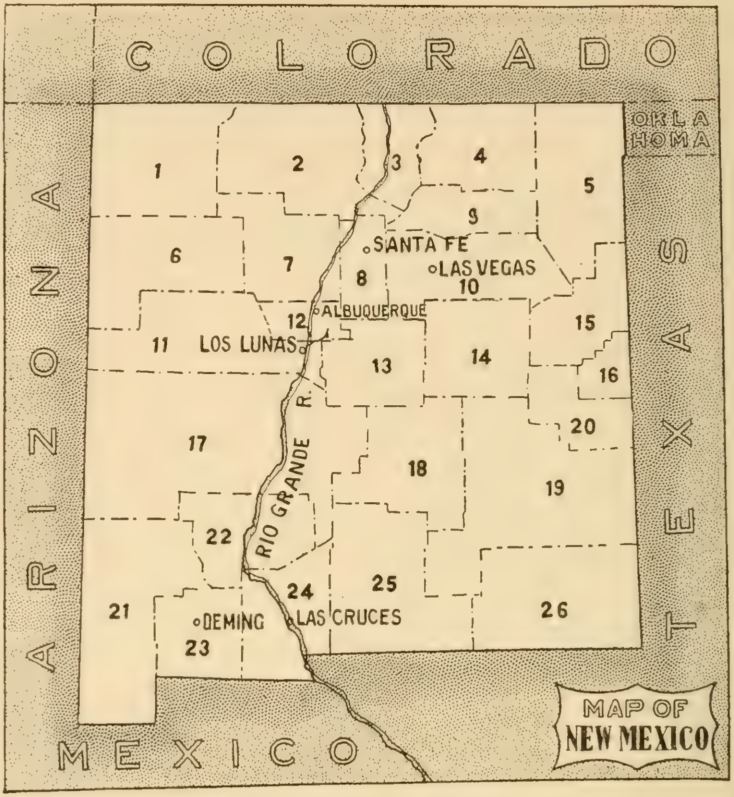
History. Earliest settlements by the Dutch at Bergen, 1617-20; by the Swedes on Delaware River, 1683; Fort Nassau, on Delaware, erected by the Dutch, 1655; country passed to English, with New York, 1664; became Royal Province, 1702; one of the original 13 States; adopted State constitution 1776; present constitution 1844; became a member of the Union 1787.

STATE AND THE 26 COUNTIES OF NEW MEXICO

With Their Boundaries

Location and Population of NEW MEXICO COUNTIES

Location	COUNTIES	Pop. 1910
1	San Juan	8,504
2	Rio Arriba	16,719
3	Taos	12,008
4	Colfax	16,460
5	Union	11,404
6	McKinley	12,963
7	San Doval	8,579
8	Santa Fe	14,770
9	Mora	12,611
10	San Miguel	22,930
11	Valencia	13,320
12	Bernalillo	23,606
13	Torrance	10,119
14	Guadalupe	10,927
15	Quay	14,912
16	Curry	11,443
17	Socorro	14,761
18	Lincoln	7,822
19	Chaves	16,850
20	Roosevelt	12,064
21	Grant	14,813
22	Sierra	3,536
23	Luna	3,913
24	Dona Ana	12,893
25	Otero	7,069
26	Eddy	12,400
	Total	327,301



NEW MEXICO CITIES AND VILLAGES WITH 1910 POPULATIONS.

Towns	Loca.	Pop.
A		
Abiquiu	2	590
Acoma	11	828
Alameda	12	490
*Alamogordo	25	3,500
*Albuquerque	12	11,020
Alcalde	2	309
Algodones	7	272
Anthony	24	250
Anton Chico	14	847
Arroyo Hondo	3	485
Arroyosceo	3	408
Artesia	26	1,883
Atrisco	12	531
*Aztec	1	509
B		
Bayard	21	200
Belen	11	673
Bent	25	366
*Bernalillo	7	786
Beulah	10	200
Bibo	11	200
Bland	7	615
Bloomfield	1	246
Bonito	18	300
C		
*Carlsbad	26	1,736
Carrizozo	18	750
Casaus	14	206
Central	21	508
Cerro	3	560
Chacon	9	266
Chama	2	399
Chamberino	24	597
Chamita	2	404
Chaperito	10	373
Chilili	12	498
Chimayo	8	319
Cimarron	4	940
Clarkville	6	250
*Clayton	5	970
Cleveland	9	615
Cloudcroft	25	250
*Clovis	16	3,255
Cochiti	7	545
Colmor	4	232
Cooks	23	504
Cooney	17	260
Cordova	2	350
Corona	18	209
Costilla	3	599
Coyote	2	366
Cubero	11	342
Cuchillo	22	260
Cuervo	14	360
D		
Dayton	26	280
*Deming	23	1,864
Des Moines	5	208
Dexter	19	242
Dona Ana	24	748
Dorsey	4	217
E		
Elida	20	327
Elizabethtown	4	577
El Rito	2	644
Endee	15	288
Espanola	2	550
*Estancia	13	517
F		
Fair View	22	232
Farmington	1	785
Fierro	21	762
Flora Vista	1	236
Folsom	5	484
Fort Bayard	21	520
Fort Stanton	18	290
Fort Sumner	14	496
Fort Wingate	6	526
French	4	290
Fruitland	1	450
G		
Galisteo	8	726
Gallina	2	257
*Gallup	6	2,204
Gardiner	4	965
Gila	21	350
Glorieta	8	250
Golden	8	323
Guadalupita	9	292
Guique	2	490
H		
Hagerman	19	449
Heaton	6	362
*Hillsboro	22	1,022
Hodges	3	290
I		
Isidor	14	296
Isleta	12	1,085
J		
Jarales	11	848
Jemez	7	525
Jemez Springs	7	266
K		
Kelly	17	616
Kingston	22	284
L		
La Cueva	9	570
Laguna	11	1,583
Lajoya	17	342
Lake Arthur	19	344
Lake Valley	22	215
Lakewood	26	250
La Luz	25	444
La Mesa	24	302
Laplata	1	221
Largo	1	450
*Las Cruces	24	3,836
Las Palomas	22	225
*Las Vegas	10	3,755
La Vegas	10	3,179
Lemitar	17	428
Liberty	1	250
*Lincoln	18	1,065
Lordsburg	21	1,109
*Los Lunas	11	458
Lucero	9	208
Lumberton	2	465
Luna	17	260
M		
Madrid	8	422

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

New Mexico Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Magdalena	17	909
Manzano	13	649
Maxwell City	4	271
Mayhill	25	286
Melrose	16	1,066
Mesilla	24	1,274
Miera	5	450
Milligan	17	306
Mimbres	21	295
Mogollon	17	599
Monticello	22	391
Montoya	15	308
*Mora	9	1,290
Mountain Park	25	317
N		
Nara Visa	15	290
O		
Ocate	9	200
Organ	24	259
Orogrande	25	460
P		
Pajarito	12	388
Paraje	17	282
Park View	2	811
Pecos	10	536
Peralta	11	561
Petaca	2	341
Picacho	18	384
Pinos Altos	21	1,118
Placitas	7	206
Polvadera	17	417
*Portales	20	1,292
Puerto de Luna	14	1,097
Putnam	1	200
Q		
Questa	3	650
R		
Ranches of Taos	3	1,407
*Raton	4	4.539
Red River	3	208
Rincon	24	276
*Roswell	19	6,172
Roy	9	460
Ruidoso	18	348
S		
San Acacia	17	460
San Antonio	17	542
Sandoval	7	613
San Felipe	7	492
San Idlefonso	8	363
San Jon	15	225
San Jose	10	606
San Juan	2	1,362
San Lorenzo	21	329
San Marcial	17	1,018
San Mateo	11	322
San Pedro	8	451
San Rafael	11	698
Santa Ana	7	212
Santa Clara	8	268
Santa Cruz	8	674
Santa Domingo	7	809
Santa Fe (Capital)	8	5,072
Santa Rita	21	1,874
*Santa Rosa	14	1,660
Sapello	10	351
Sawyer	11	560
Seama	11	218
*Silver City	21	3.217
*Socorro	17	1,560
Springer	4	558
T		
Tajique	13	318
*Taos	3	521
Tecolote	10	508
Texico	16	409
*Tierra Amarilla	2	844
Tome	11	985
*Tucumcari	15	2,526
Tularosa	25	752
Tyrone	21	250
V		
Valencia	11	455
Vallecitos	2	617
Variadero	10	309
Vaughn	14	808
W		
Wagon Mound	9	895
Watrous	9	244
Weed	25	514
White Oaks	18	390
Z		
Zuni	6	1,309

NEW MEXICO

Contains the Oldest House in the United States Oldest Settlement and Oldest Resident Civilization.

In the writing of New Mexico we realize that we have set aside a very small space to do justice to a state **14 times larger** than Massachusetts, a region of the country containing the **oldest house** in the United States, at Santa Fe, the oldest settlement and oldest resident civilization.

In the preparation of this volume we early began collecting literature relating to New Mexico, and in a brief time our desk was filled **with books and pamphlets** descriptive of the **minerals**, the **health resorts**, the **antiquities**, the **agricultural** possibilities, the irrigation schemes going forward, the **easy terms**, on small weekly payments, by which lands could be bought from the irrigation companies, and the profits in **fruit raising** and farming.

EXTENSIVE IRRIGATION PROSPECTS HERE.

Over the immense area of this State there are many mountains, between which lie broad, level valleys of rich soil. As the **annual rainfall** is usually too light for agricultural requirements, **extensive irrigation systems** under control of private corporations and the general government are being developed.

HUNDREDS OF THOUSANDS OF ACRES RECLAIMED.

Thus hundreds of thousands of acres of desert lands in New Mexico are being reclaimed and made profitable for the settlers.

All farmers do not depend on these general plans of irrigation. They buy **cheaper lands**, sink wells, put in a gasoline engine, construct a reservoir and irrigation system of their own and demonstrate that they can be **independent** of drouth and have a certainty of crops.

WOULD PAY EASTERN FARMERS TO STUDY IRRIGATION HERE.

It would well pay many an Eastern farmer, who is never sure what his crop will be, because of uncertain rainfall, to visit these **self-irrigated** farmers, study their systems, return East and put **their methods** into practice on their own farms.

From the literature sent out from the irrigation associations, from the railroad companies, and the Bureau of Immigration, located at Santa Fe, N. M., the reader can obtain a **large amount** of statistics and information which will be useful.

From a book entitled "The Land of Sunshine," we condense the following:

A LAND OF OPPORTUNITIES.

"**New Mexico is a land of opportunities.** The major part of its wealth is latent, the bulk of its natural resources is undeveloped. There are **three hundred acres** of land to each inhabitant, and only **one acre** out of every three hundred is under cultivation. Few of the almost three hundred mining districts have been thoroughly prospected, much less systematically developed.

FOR THE CAPITALIST.

Capital is invited, for money is a **prime requisite** nowadays for the development of resources. Good returns upon carefully invested capital are certain in a greater measure than in **any other** part of the Union.

FOR THE MANUFACTURER.

Manufacturers are needed to make use of the raw material that New Mexico can and does furnish in large quantities. It has grazing upon its thousand hills **six million sheep** of improved grades, therefore it produces the raw material for many woolen mills. Thus in other industries.

FOR THE HUSBANDMAN.

Farmers are urged to come to till the fertile soil under the most favorable conditions, and with home markets that pay better prices than can be obtained anywhere else. Only a quarter of a million of acres are under cultivation, and most of these only in forage plants or in products that demand little attention; four times that area is **immediately available** for agricultural purposes.

FOR THE MINER.

A great field for the miner! New Mexico lies in the same mineral zone as Colorado, with the difference that Colorado has been well prospected, while in New Mexico, although mining is an old industry, there are **many virgin mineral districts** and even the oldest mining sections have been incompletely prospected and but little developed.

FOR THE BUSINESS MAN.

The business men of New Mexico have most of them come from the east and it seems that, without exception, they have done exceedingly well.

FOR MECHANICS.

While New Mexico is no manufacturing commonwealth, yet mechanics are **needed** in the building trades, in the coal mines, in the railroad shops, or to go into business for themselves on a small scale.

FOR THE HEALTH SEEKER.

Health seekers are invited. New Mexico does not intend to shut the door upon them. Physicians the world over recognize that its climate offers the best, and in most circumstances the only conditions under which those suffering from lung, throat and nervous trouble can be cured.

CONDENSED IMPORTANT FACTS.

Altitude. Highest peak, Las Truchas, in Rio Arriba County, 13,306 feet.

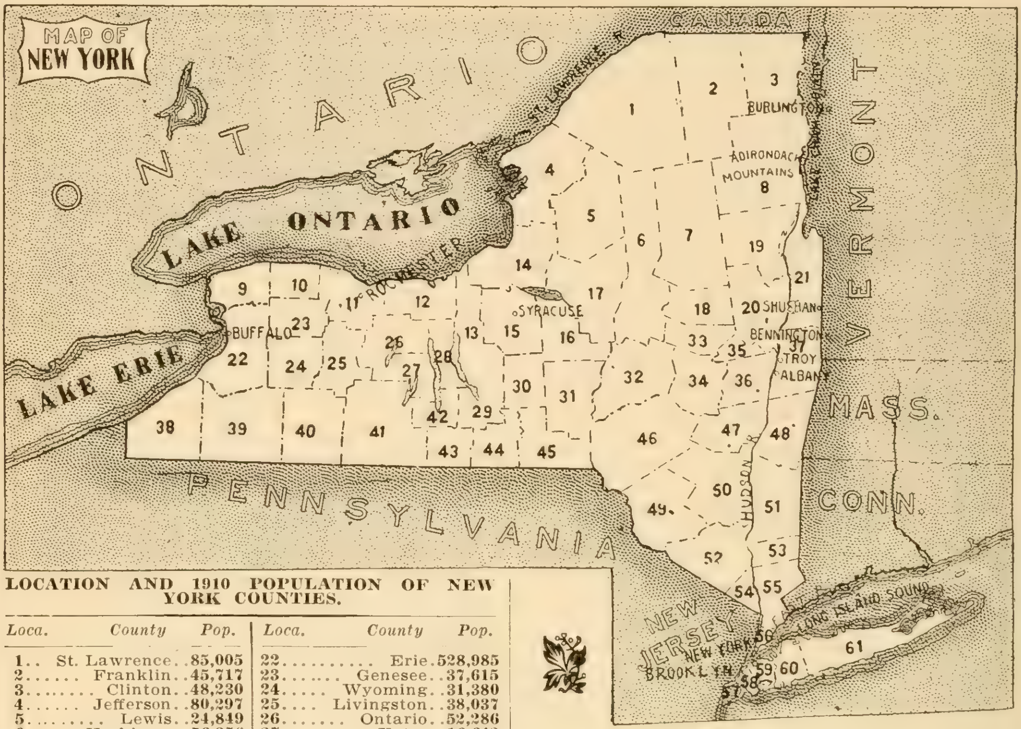
Climate. At Santa Fe, mean temperature, 53; average temperature, January, 28 degrees above zero; July, 68 degrees above zero. Highest, 97 degrees above zero; lowest, 14 degrees below zero. Average annual rainfall, 14.2 inches.

Dimensions. Extreme length of State, north to south, 390 miles; extreme width, east to west, 350 miles.

History. Spanish exploration, under Coranado, 1541. Eastern two-thirds of territory originally formed part of Texas, all east of the Rio Grande having been claimed by the republic. A portion of the territory ceded by Mexico to the United States in 1848 and a strip of the Gadsen purchase secured in 1853 adopted a constitution in 1850 and since that time has been seeking admission to the Union.

STATE AND THE 61 COUNTIES OF NEW YORK

With Their Boundaries



LOCATION AND 1910 POPULATION OF NEW YORK COUNTIES.

Loca.	County	Pop.
1	St. Lawrence	85,005
2	Franklin	45,717
3	Clinton	48,230
4	Jefferson	80,297
5	Lewis	24,849
6	Herkimer	56,356
7	Hamilton	4,378
8	Essex	33,458
9	Niagara	92,036
10	Orleans	82,000
11	Monroe	283,212
12	Wayne	47,778
13	Cauga	67,106
14	Oswego	71,664
15	Ononadaga	200,298
16	Madison	39,289
17	Oneida	154,157
18	Fulton	44,534
19	Warren	32,223
20	Saratago	611,917
21	Washington	50,179
22	Erie	528,985
23	Genesee	37,615
24	Wyoming	31,380
25	Livingston	38,037
26	Ontario	52,286
27	Yates	16,642
28	Seneca	26,972
29	Tompkins	33,647
30	Cortland	29,249
31	Chenango	35,575
32	Otsego	47,216
33	Montgomery	57,567
34	Schoharie	23,855
35	Schenectady	88,235
36	Albany	173,666
37	Rensselaer	122,276
38	Chautauquá	105,126
39	Cattaraugus	65,919
40	Allegheny	41,412
41	Steuben	83,362
42	Schuyler	14,004
43	Chemung	54,662
44	Tioga	25,624
45	Broome	78,809
46	Delaware	87,661
47	Greene	30,214
48	Columbia	43,658
49	Sullivan	33,808
50	Ulster	91,769
51	Dutchess	87,861
52	Orange	115,751
53	Putnam	14,665
54	Rockland	46,873
55	Westchester	283,055
56	Bronx	
57	Richmond	85,969
58	Kings	1,634,351
59	Queens	284,041
60	Nassau	83,930
61	Suffolk	96,138
	Total	9,113,614

New York Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
Accord	50	375
Adams	4	1,458
Adams Basin	11	274
Adams Center	4	650
Addison	41	2,004
Adrian	41	500
Afton	31	729
Akin	33	606
Akron	22	1,677
Alabama	23	227
Albany (capital)	36	100,253
*Albion	10	5,016
Alburg	2	363
Alden	22	828
Alexander	23	212
Alexandria Bay	4	1,899
Alfred	40	759
Allaben	50	250
Allegany	39	1,286
Allenshill	26	220
Allentown	40	655
Alligerville	50	250
Almond	40	606
Altamont	36	674
Altay	42	206
Altmar	14	360
Alton	12	350
Altona	3	250
Amagansett	61	608
Amawalk	55	290
Amenia	51	1,206
Amityville	61	2,517
Amsterdam	33	31,267
Ancram	48	1,332
Andes	46	414
Andover	40	1,336
Angelica	40	1,056
Angola	22	898
Antwerp	4	974
Apalachin	44	460
Aquebogue	61	320
Aquetuck	36	250
Arcade	24	1,294
Arden	52	290
Ardsley	55	537
Arena	46	208
Argyle	21	231
Arietta	7	295
Arkport	41	460
Arkville	46	430
Arkwright	38	886
Arlington	51	750
Armonk	55	265
Ashford	39	306
Ashland	47	780
Ashville	38	406
Athens	47	1,956
Athol Springs	22	380
Atlanta	41	294
Attica	24	1,869
Atwood	50	209
*Auburn	13	34 686
Augusta	17	1,354
Aurelius	13	1,548
Aurora	13	493

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

New York Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Au Sable Chasm	3	2,399
Au Sable Forks	8	2,500
Averillpark	37	450
Avoca	41	1,057
Avon	25	2,083
Awosting	50	508
B		
Babcockhill	17	2,600
Babylon	61	2,357
Bacon Hill	20	290
Bainbridge	31	1,159
Baiting Hollow	61	250
Baldwin	60	2,596
Baldwinsville	15	3,099
Ballston Lake	20	200
*Ballston Spa	20	4,138
Bangor Station	2	490
Bangor	2	2,184
Barker	9	441
Barre Center	10	208
Barrytown	51	490
Barryville	49	380
Barton	44	208
*Batavia	23	11,613
*Bath	41	3,884
Battenville	21	275
Bayport	61	750
Bay Shore	61	3,842
Bayville	60	590
Beaver Dams	42	509
Beaver Falls	5	900
Bedford	55	390
Bedford Station	58	609
Beckman	51	255
Beckmantown	3	1,889
Belfast	40	990
Belle Isle	15	326
Bellville	4	341
Bellevue	22	490
Bellmore	60	680
Bellona	27	250
Bellport	61	419
Bellvale	52	350
*Belmont	40	1,094
Belmont Center	2	380
Belvidere	40	200
Bennington	24	390
Benson	7	215
Benson Mines	1	996
Bergen	23	637
Berkshire	44	1,160
Berlin	37	1,677
Berne	36	1,915
Bethel	49	215
Bethlehem Center	36	4,451
Bidwell	11	208
Big Creek	41	590
Big Flats	43	666
Big Tree	22	208
*Binghamton	45	48,443
Binnewater	50	490
Bishopville	40	2,129
Black River	4	916
Blasdell	22	849
Blauvelt	54	350
Bleecker	18	527
Bliss	24	499
Bloomingburg	49	550
Bloomingdale	8	382
Bloomington	50	466
Bloomville	46	350
Blue Point	61	506
Bohemia	61	390
Bolivar	40	2,318
Bolton	19	1,561
Bolton Landing	19	1,363
Bombay	2	1,386
Boonville	17	1,794
Boquet	8	250
Border City	28	296
Borodino	15	209
Boston	22	1,278
Bouckville	16	250
Bowmansville	22	366
Bradford	41	620
Brainard	37	280
Brainardsville	2	280
Branchport	27	273
Brandon	2	920
Brant	22	250
Brasher Falls	1	666
Breakabeen	34	209
Breesport	43	506
Brentwood	61	250
Brewerton	15	625
Brewster	53	1,296
Briarcliff Manor	55	950
Bridgehampton	61	1,394
Bridgeport	16	426
Bridgewater	17	245
Brier Hill	1	266
Brighton	2	794
Brighton	11	846
Broadalbin	18	1,933
Brockport	11	3,579
Brocton	38	1,181
Bronxville	55	1,863
Brookfield	16	395
Brook Haven	61	350
*Brooklyn	58	1,634,351
Brookton	29	362
Brookview	37	222
Broome Center	34	1,054
Brownville	4	854
Brushton	2	598
Buchanan	55	390
*Buffalo	22	423,705
Burdett	42	382
Burke	2	1,875
Burlingham	49	266
Burlington Flats	32	309
Buskirk Bridge	21	321
Busti	38	390
Byron	23	350
C		
Cadosia	46	509
Cairo	47	573
Caledonia	25	1,240
Callicoon	49	880
Callicoon Center	49	250
Calverton	61	210
Cambridge	21	1,528
Camden	17	2,170
Cameron	41	1,217
Camillus	15	763
Campbell	41	480
Canaan	48	215
Canajoharie	33	2,273
*Canandaigua	26	7,217
Canaseraga	40	754
Canastota	16	3,247
Candor	44	737
Caneadea	40	450
Canisteo	41	2,254
Cannonsville	46	300
*Canton	1	2,701
Cape Vincent	4	1,155
Capron	17	608
Carlisle	34	1,091
Carman	35	450
*Carmel	53	660
Caroline	29	200
Caroline Center	29	266
Carrollton	39	202
Carthage	4	3,563
Cassadaga	38	428
Cassville	17	226
Castile	24	1,040
Castle Creek	45	220
Castleton	37	1,396
Castorland	5	360
Catharine	42	1,268
Catlin	43	912
Cato	13	374
Caton	41	1,215
*Catskill	47	5,296
Cattaraugus	39	1,165
Caughdenoy	14	250
Cayuga	13	348
Cayuta	42	383
Cazenovia	16	1,861
Cedar Hill	36	206
Cedarhurst	60	762
Cedarvale	15	226
Celeron	38	619
Cementon	47	606
Center Cambridge	21	357
Center Lisle	45	225
Center Moriches	61	1,017
Centerport	61	487
Centerville Station	49	862
Central Bridge	34	426
Central Islip	61	426
Central Park	60	530
Central Square	14	429
Central Valley	52	820
Ceres	40	350
Chadwicks	17	375
Chafee	22	226
Champion	4	2,668
Champlain	3	1,280
Chapin	26	360
Chappaqua	55	733
Charleston	33	932
Charlotte	11	1,938
Charlotteville	34	2,777
Chateaugay	2	1,045
Chateaugay Lake	2	220
Chatham	48	2,251
Chatham Center	48	223
Chaumont	4	708
Chauncey	55	206
Chautauqua	38	520
Chazy	3	2,835
Chazy Lake	3	206
Chelsea	51	226
Chemung	43	392
Chenango Bridge	45	250
Chenango Forks	45	520
Cherry Creek	38	606
Cherry Valley	32	792
Cheshire	26	204
Chester	52	1,210
Chestertown	19	1,965
Chichester	50	606
Chili	11	2,109
Chittenango	16	678
Chittenango Falls	16	222
Churchville	11	565
Cicero	15	490
Cincinnatus	30	1,033
Clare	1	329
Clarence	22	560
Clarence Center	22	490
Clark Mills	17	606
Clarkson	11	390
Clarksville	36	406
Claverack	48	402
Claverhouse	11	426
Clayton	4	1,941
Clayville	17	649
Clemons	21	321
Cleveland	14	687
Clifton	11	250
Clifton Springs	26	1,608
Clinton	17	1,236
Clinton Corners	51	320
Clintondale	50	1,096
Clinton Hollow	51	326
Clinton Mills	3	1,543
Clintonville	3	244
Clyde	12	2,695
Clymer	38	454
Cobleskill	34	2,088
Cochecton Center	49	1,174
Coeymans	36	4,264
Coeymans Hollow	36	410
Cohocton	41	838
Cohoes	36	24,709
Cold Brook	6	358
Colden	22	462
Cold Spring	53	2,549
Cold Spring Harbor	61	981
Cold Water	11	260
Collins	22	220
Collins Center	22	350
Columbiaville	48	320
Columbus	31	290
Commack	61	360
Conesus	25	526
Coneville	34	734
Conewango	39	220
Conewango Valley	39	202
Congers	54	730
Connelly	50	850
Constable	2	1,355
Constableville	5	407
Constantia	14	241
Cooks Falls	46	401
Coopers Plains	41	301
*Cooperstown	32	2,484
Cooperstown Junction	32	450
Copake	48	200
Copake Falls	48	301
Copenhagen	5	585
Copiague	61	546
Corbettsville	45	201
Corfu	23	413
Corinth	20	2,166
Corning	41	13,730
Cornwall	52	2,651
Cornwall Landing	52	302
Cornwall on the Hudson	52	1,301
*Cortland	30	11,504
Cossayuna	21	211
Covert	28	1,954
Cowelsville	24	202
Coxsackie	47	2,494
Craterclub	8	201
Creek Locks	50	502
Crescent	20	315
Croghan	5	621
Cropseyville	37	208
Croton Falls	55	451
Croton on Hudson	55	1,806
Crown Point	8	1,891
Crown Point Center	8	201
Crugers	55	212
Cuba	40	1,556
Cutchogue	61	851
Cuylerville	25	254
D		
Dahlia	49	201
Dalton	25	526
Damascus	45	201
Danby	29	1,241
Dannemora	3	1,146
Dansville	25	3,938
Darien	23	201
Davenport	46	401
Dayton	39	501
Deansboro	17	251
Debruce	49	250
Deerfield	17	691
Deerhead	8	302
Deer River	5	201
Deferiet	4	802
De Kalb Junction	1	451
De Lancey	46	202
Delanson	35	451
Delavan	39	751
*Delhi	46	1,736
Delmar	36	401
Delphi Falls	15	231
Dempster	14	501
Denning	50	897
Depauville	4	351
Depew	22	3,921
Deposit	45	1,864
Derby	22	251
Derrick	2	351
De Ruyter	16	538
Dexter	4	1,005
Dickinson	2	1,763
Dickinson Center	2	1,664
Dobbs Ferry	55	3,455
Dodgeville	6	2,685
Dorloo	34	201
Dover Plains	51	797
Downsville	46	551
Dresden	27	345
Dresden Station	21	251
Dryden	29	709
Duane	2	372
Duanesburg	35	2,467
Dundee	27	1,228
Dunkirk	38	17,221
Durham	47	275
Durhamville	17	731
E		
Eagle Bridge	37	301
Eagle Harbor	16	315
Eagle Mills	37	501
Earlville	10	874
East Aurora	22	2,781
East Avon	25	251
East Bethany	23	201
East Bloomfield	26	1,941
East Branch	46	301
East Chatham	48	224
East Durham	47	251
East Florence	17	201
East Greenbush	47	2,036

New York Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
East Groveland	25	205
East Hampton	61	2,001
East Hartford	21	202
East Islip	61	999
East Kingston	50	401
East Marion	61	401
East Meredith	46	301
East Moriches	61	847
East Nassau	37	201
East Northport	61	301
East Oldfield	23	502
Easton	21	201
East Onondaga	15	400
East Otto	39	301
East Palmyra	12	251
East Park	51	203
East Patchogue	61	251
East Pembroke	23	501
Eastport	61	401
East Quoque	61	302
East Randolph	39	598
East Rochester	11	2,398
East Rockaway	60	1,202
East Schodack	37	205
East Setauket	61	684
East Springfield	32	201
East Syacuse	15	3,274
Eastwood	15	810
East Worcester	32	501
Eaton	16	2,474
Ebenezer	22	501
Eddyville	50	601
Eddyvile	39	215
Eden	22	701
Edinburg	20	1,032
Edison	4	651
Edmeston	32	801
Edwards	1	476
Eggertsville	22	301
Egypt	11	392
Elba	23	351
Elbridge	15	462
*Elizabethtown	8	505
Elkbrook	46	201
Ellenburg	3	324
Ellenburg Center	3	252
Ellenville	50	3,114
Ellicottville	39	985
Ellington	38	501
Ellisburg	4	702
Elma	22	251
Elmhurst	59	2,500
*Elmira	43	37,176
Elmira Heights	43	2,732
Elmsford	55	552
Emerick	36	501
Emeryville	1	201
Empire	48	202
Enderlin	52	1,001
Endicott	45	2,408
Enfield Center	29	1,111
Ephratan	18	1,497
Erieville	16	251
Erin	43	898
Erwin	41	2,107
Esopus	50	251
Esperance	34	263
Essex	8	1,344
Essex Station	8	251
Etna	29	375
Euclid	15	201
Evans	22	200
F		
Fabius	15	384
Fairfield	6	251
Fairground	61	200
Fair Haven	13	571
Fairport	11	3,112
Falconer	38	2,141
Fallsburg	49	403
Farmersville	39	275
Farmersville Station	39	201
Farmingdale	60	1,567
Farnham	22	541
Faust	2	301
Fayette	28	251
Fayetteville	15	1,481
Felts Mills	4	401
Fernwood	14	202
Fillmore	40	401
Findley Lake	38	401
Fine	1	302
Firthcliff	52	301
Fishers	26	201
Fishers Island	61	301
Fishkill	51	516
Fishkill on the Hudson	51	3,902
Fishs Eddy	46	225
Flagg	8	201
Fleischmanns	46	201
Fleming	13	1,076
Floral Park	60	1,225
Florence	17	251
Florida	52	555
Floyd	17	922
Fly Creek	32	251
*Fonda	33	1,101
Forestburg	49	714
Forestport	17	507
Forestville	38	721
Forks	22	3,201
Fort Ann	21	436
Fort Covington	2	854
Fort Covington Center	2	877
Fort Edward	21	3,762
Fort Hunter	33	701
Fort Miller	21	301
Fort Montgomery	52	215
Fort Plain	33	2,762
Station	33	708
Fowlerville	25	382
Frankfort	6	3,303
Franklin	46	473
Franklin Falls	2	1,496
Franklin Springs	17	352
Franklinville	39	1,568
Fredonia	38	5,285
Freehold	47	241
Freeman	41	501
Freeport	60	4,836
Freetown Corners	30	539
Freeville	29	318
Fremont Center	49	2,168
Frewsburg	38	801
Friendship	40	1,218
Fulton	14	10,481
Fulton Chain	6	201
Fultonham	34	1,998
Fultonville	33	812
G		
Gabriels	2	201
Gaines	10	201
Gainesville	24	327
Galena	31	865
Gallupville	34	258
Gansevoort	20	202
Garbutt	11	224
Garden City	60	577
Gardenville	22	701
Gardiner	50	352
Garfield	37	401
Garnerville	54	1,301
Garoga	18	449
Garrattsville	32	225
Garrison	53	501
Gasport	9	375
Geneseo	25	2,067
Geneva	26	12,446
Genoa	13	451
Georgetown	16	896
Germantown	48	801
Gerry	38	302
Getzville	22	501
Gibson	41	278
Gilbert	28	200
Gilbertsville	32	445
Gilboa	34	1,425
Gile	2	201
Glasco	50	1,501
Glen	33	2,191
Glen Cove	60	7,501
Glenfield	5	251
Glenham	51	801
Glen Head	69	677
Glenlock	26	515
Glenpark	4	522
Glens Falls	19	15,243
Glenside	15	301
Glenville	35	4,178
Glenwood Landing	60	351
Gloverville	18	20,642
Good Ground	61	1,011
Gorham	26	301
*Goshen	52	3,081
Gouveneur	1	4,128
Gowanda	39	2,012
Grafton	37	501
Grahamsville	49	301
Granby Center	14	2,038
Grande Gorge	46	251
Grand Island	22	1,101
Grandview	54	356
Granville	21	3,921
Grapeville	47	251
Grassy Point	54	701
Great Bend	4	301
Great Neck	60	1,985
Greatneck Station	60	201
Great Valley	39	210
Greece	11	251
Greene	31	1,275
Green Island	36	4,737
Green Lawn	61	401
Greenport	61	3,089
Greenville	47	351
Greenwich	21	2,314
Greenwood	41	1,082
Griffin Corners	46	402
Groton	29	1,261
Groveland Station	25	252
Guilderland	36	3,541
Guilderland Center	36	218
Guilford	31	402
H		
Hadley	20	351
Hagaman	33	875
Hagerman	61	250
Hague	19	1,054
Haines Falls	47	1,509
Hale Eddy	46	200
Halesite	61	560
Hall	26	329
Halsey Valley	44	300
Hamburg	22	2,131
Hamden	46	375
Hamilton	16	1,689
Hamlet	38	209
Hamlin	11	350
Hammond	1	404
Hammondsport	41	1,254
Hampton	21	675
Hancock	46	1,329
Hannawa Falls	1	390
Hannibal	14	330
Hannibal Center	14	250
Hardenburg	50	784
Harford	30	679
Harford Mills	30	200
Harpersville	45	450
Harriettstown	2	4,113
Harrison	55	1,485
Harrisville	5	921
Harrower	33	250
Hartford	21	763
Hartland	9	350
Hart Lot	15	330
Hartsdale	55	706
Hartwick	32	662
Hastings	14	306
Hastings upon Hudson	55	4,552
Hauppauge	61	266
Haverstraw	54	5,669
Hawkinsville	17	322
Hawthorne	55	350
Hecla Works	17	326
Hector	42	3,888
Hemlock	25	320
Hempstead	60	4,964
Henderson	4	340
Henderson Harbor	4	290
Henrietta	25	292
Hensonville	47	230
*Herkimer	6	7,520
Hermitage	24	226
Herman	1	587
Heuvelton	1	500
Hewitville	1	259
Hewlett	60	511
Hicksville	60	2,509
High Falls	50	790
Highland	50	1,300
Highland Falls	52	2,470
Highland Mills	52	560
Hillburn	54	1,090
Hillsdale	48	560
Hilton	11	627
Himrod	27	310
Hinckley	17	666
Hindsburg	10	222
Hinsdale	39	208
Hoag Corners	37	257
Hobart	46	544
Hogansburg	2	353
Holbrook	61	201
Holcomb	26	226
Holland	22	762
Holland Patent	17	337
Holley	10	1,679
Homesville	31	250
Homer	30	2,695
Honeoye	26	426
Honeoye Falls	11	1,169
Hoosick	37	362
Hoosick Falls	37	5,532
Hope	7	317
Hopewell Junction	51	320
Hopkinton	1	206
Horicon	19	1,114
Hornby	41	940
Hornell	41	13,617
Horseheads	43	1,778
Howard	41	1,530
Howells	52	250
Hubbardsville	16	460
*Hudson	48	11,417
*Hudson Falls	21	5,189
Hughsonville	51	682
Huguenot Park	57	450
Hulberton	10	462
Hume	40	385
Hunter	47	408
Huntington	61	5,030
Huntington Station	61	226
Hurley	50	462
Hurleyville	49	520
Huron	12	266
Hurstville	36	1,793
Hyde Park	51	786
I		
Idlewild	52	1,092
Ilion	6	6,588
Indian Falls	23	258
Indian Lake	7	1,049
Interlaken	28	693
Inwood	60	1,929
Ionia	26	210
Ira	13	200
Irona	3	290
Irondequoit	11	209
Ironville	8	330
Irving	38	390
Irvington	55	2,319
Ischua	39	250
Islip	61	2,206
Italy	27	1,206
*Ithaca	29	14,802
J		
Jamesport	61	341
Jamestown	38	31,297
Jamesville	15	495
Jasper	41	1,365
Jay	8	1,985
Jeddo	10	350
Jefferson	34	1,304
Jeffersonville	49	324
Jericho	60	450
Jerusalem	36	250
Jewett	47	200
Jewettville	22	300
Johnsburg	19	2,364
Johnson	52	226
Johnsonburg	24	426
Johnson Creek	9	220
Johnsonville	37	550
*Johnstown	18	10,447
Jordan	15	978
Jordanville	6	250
Junius	28	908

New York Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
K		
Kaaterskill	47	890
Kanona	41	290
Katona	55	1,409
Katrine	50	566
Keene	8	1,258
Keene Valley	8	1,258
Keeseville	8	1,835
Keddall	10	460
Kelleys	35	650
Kendall Mills	10	330
Kenmore	22	1,020
Kennedy	33	662
Kenwood	16	622
Kerhonkson	50	350
Killawog	45	362
Kill Buck	39	250
Kinderhook	48	698
King Ferry	13	320
Kings Park	61	1,090
*Kingston	50	25,908
Kirkville	15	250
Kirkwood	45	290
Knapp Creek	39	226
Knapps	1	360
Knowlesville	10	321
Knox	36	1,174
Knoxboro	17	262
Kripplebush	50	229
L		
Lackawanna	22	14,549
Lacona	14	443
La Fargeville	4	475
La Grangeville	51	200
Lake George	19	632
Lake Grove	61	462
Lake Huntington	49	326
Lake Katrina	50	562
Lake Placid	8	1,632
*Lake Pleasant	7	494
Lake View	22	596
Lakeville	25	476
Lakewood	38	564
Lancaster	22	4,364
Langford	22	218
Lansing	14	262
Larchmont	55	1,958
La Salle	9	1,299
Lassalleville	18	326
Laurens	32	242
Lawrence	60	1,189
Lawrenceville	1	398
Lawyersville	34	250
Lebanon Spgs	48	530
Lee Center	17	325
Leeds	47	309
Le Fevre Falls	50	302
Liebhardt	50	290
Leicester	25	304
Leon	39	250
Leonardsville	16	350
Le Roy	23	3,771
Lestershire	45	3,775
Levant	38	762
Lewis	8	1,049
Lewiston	9	713
Lexington	47	362
Liberty	49	2,072
Lillydale	38	250
Lima	25	866
Limestone	39	684
Lincklaen	31	250
Lincolndale	55	200
Lindenhurst	61	1,575
Lindley	41	1,174
Linlithgo	48	266
Linlithgo Sta.	48	208
Lisle	45	329
Little Falls	6	12,273
Little Genesee	40	250
*Little Valley	39	1,368
Liverpool	15	1,388
Livingston	48	245
Livingston Manor	49	1,086
Livingstonville	34	326
Livonia	25	823
Livonia Center	25	226
Lobdell	3	253
Locke	13	1,079
*Lockport	9	17,970
Locust Valley	60	448
Lodi	28	495
Long Eddy	49	766
Long Lake	7	1,233
Loomis	49	226
Lordville	46	226
Loraine	4	390
Loudonville	36	556

Towns	Loca.	Pop.
Louisville	1	1,553
*Lowville	5	2,940
Loyd	50	262
Ludlowville	29	262
Luzerne	19	1,371
Luzon	49	552
Lycoming	14	203
Lynbrook	60	2,051
Lyndowville	19	647
*Lyons	12	4,460
Lyonsdale	5	1,451
Lyons Falls	5	759
Lysander	15	305
M		
McConnellsville	17	260
McDonough	31	322
McGraw	30	931
McLean	29	460
Macedon	12	536
Machias	39	662
Macomb	1	1,245
Madalin	51	1,041
Madison	16	309
Madrid	1	950
Madrid Spgs	1	250
Mahopac	53	450
Maine	45	409
Maiden Bridge	48	210
Malden on Hudson	50	244
Mallory	14	256
*Malone	2	6,467
Mamaroneck	55	5,699
Manchester	26	881
Manhasset	60	1,062
Manitou	53	250
Manlius	15	1,314
Mannsville	4	330
Manorkill	34	250
Manorville	61	550
Marathon	30	1,079
Marcellus	15	917
Margaretville	46	669
Marilla	22	462
Marion	12	836
Marlboro	50	920
Martinsburg	5	326
Maryland	32	220
Masonville	46	350
Massapequa	60	543
Massena	1	2,951
Massena Spgs	1	206
Matoon	1	222
Matteawan	51	6,727
Mattituck	61	1,290
Maybrook	52	250
Mayfield	18	590
*Mayville	38	1,122
Maywood	46	460
Mechanicsville	20	6,634
Mecklenburg	42	460
Meco	18	200
Medford Sta.	61	250
Medina	10	5,603
Medusa	36	250
Mellenville	48	564
Melrose	37	360
Melville	61	266
Memphis	15	222
Mendon	11	204
Meridian	13	326
Merrick	60	520
Mexico	14	1,233
Middleburg	34	1,114
Middle Falls	21	420
Middlefield	32	243
Middle Granville	21	723
Middle Grove	20	250
Middle Hope	52	350
Middle Island	61	285
Middleport	9	1,530
Middlesex	27	350
Middletown	52	15,313
Middleville	6	625
Milford	32	511
Millbrook	51	1,136
Millerton	51	858
Millgrove	22	262
Mill Port	43	506
Mills	30	290
Milton	50	1,209
Mina	38	1,125
Minaville	33	256
Minden	33	4,591
*Mineola	60	1,981
Minerva	8	1,012
Mineville	8	1,844
Minisink	52	390
Minoa	15	320

Towns	Loca.	Pop.
Mitchellville	41	308
Model City	9	290
Modena	50	250
Mohawk	6	2,079
Moira	2	2,473
Monroe	52	1,195
Monsey	54	326
Monterey	42	276
Montezuma	13	350
Montgomery	52	941
*Monticello	49	1,941
Montour Falls	42	1,208
Montrose	55	204
Mooers	3	560
Mooers Forks	3	226
Moravia	13	1,324
Morehouseville	7	216
Moriah	8	5,717
Moriches	61	204
Morley	1	530
Morris	32	535
Morrisonville	3	350
Morristown	1	540
Morrisville	16	562
Morton Corners	22	201
Moscow	25	304
Mossyglen	41	293
Mottville	15	601
Mountain Dale	49	362
Mountainville	52	450
Mt. Kisco	55	2,802
Mt. Morris	25	2,782
Mt. Sinai	61	275
Mt. Upton	31	350
Mt. Vernon	55	30,919
Mt. Vision	32	251
Mumford	11	455
Munnsville	16	401
N		
Nanuet	54	701
Napanoch	50	650
Naples	26	1,093
Narrowsburg	49	401
Nassau	37	529
Natural Bridge	4	401
Naumburg	5	201
Nelliston	33	737
Nelsonville	53	765
Neversink	49	301
New Albion	39	201
Newark	12	6,227
Newark Valley	44	925
New Baltimore	47	734
New Berlin	31	1,114
New Bremen	5	1,975
New Bridge	1	201
Newburgh	52	27,805
*New City	54	450
Newcomb	8	554
Newfane	9	501
Newfield	29	354
New Hamburg	51	590
New Hampton	52	260
New Hartford	17	1,195
New Haven	14	296
New Hyde Park	60	1,001
New Lebanon	48	460
New Lisbon	32	201
New Paltz	50	1,230
Newport	6	583
New Rochelle	55	28,867
New Scotland	36	3,015
New Suffolk	61	251
Newtonfalls	1	401
Newtonville	36	250
New Windsor	52	614
New Woodstock	16	338
*New York	56	4,766,883
New York Mills	17	2,552
Niagara Falls	9	30,445
Niagara University	9	250
Nichols	44	533
Nicholville	1	362
Nile	40	290
Nineveh	45	450
Niobe	38	290
Niskayuna	35	1,445
Niverville	48	219
Norfolk	1	1,500
Northampton	18	2,604
North Argyle	21	208
No. Bangor	2	480
North Bay	17	350
No. Blenheim	34	528
No. Boston	22	209
North Branch	49	250

Towns	Loca.	Pop.
No. Brookfield	16	350
North Chill	11	302
No. Chocton	41	350
No. Collins	22	730
North Creek	19	450
No. Elba	8	3,001
No. Evans	22	390
North Fair Haven	13	360
North Germantown	48	360
No. Granville	21	626
No. Hannibal	14	226
No. Hebron	21	301
No. Hoosick	37	491
No. Hudson	8	505
North Java	24	390
No. Lawrence	1	598
No. Norwich	31	865
North Peham	55	1,311
No. Petersburg	37	293
No. Pharsalia	31	260
Northport	61	2,096
North Rose	12	460
North Salem	55	226
No. Stockholm	1	362
No. Syracuse	15	399
No. Tarrytown	55	5,421
No. Tonawanda	9	11,955
Northville	18	1,130
*Norwich	31	7,422
Norwood	1	1,993
Nunda	25	1,043
Nyack	54	4,619
O		
Oakfield	23	1,236
Oaks Corners	26	369
Ocean Side	60	562
Odessa	42	330
Ogden	11	1,876
Ogdensburg	1	15,998
Olcott	9	250
Old Chatham	48	390
Old Forge	6	465
Old Holbrook	61	201
Old Westbury	60	250
Olean	39	14,743
Olivebridge	50	290
Olmstedville	8	206
Oneida	16	8,317
Oneida Castle	17	399
Oneida Valley	16	406
Oneonta	32	9,491
Onondaga	15	250
Onondaga Valley	15	590
Onoville	39	609
Ontario	12	490
Ontario Center	12	306
Oppenheim	18	1,258
Orangeburg	54	390
Orchard Park	22	869
Orient	61	808
Oriskany	17	1,206
Oriskany Falls	14	832
Orleans	26	220
Orleans Four Corners	4	2,433
Orwell	14	1,029
Ossian	25	780
Ossining	55	11,480
*Oswego	14	23,368
Oswego Center	14	250
Otego	32	676
Otisville	52	250
Otto	39	490
Ouaquaga	45	260
*Ovid	28	584
Owasco	13	260
*Owego	44	4,633
Oxbow	4	250
Oxford	31	1,654
Oyster Bay	60	3,692
P		
Pagebrook	31	250
Painted Post	41	1,224
Palatine Bridge	33	392
Palermo	14	1,301
Palisades	54	362
Palmyra	12	2,268
Pamella Four Corners	4	202
Panama	38	337
Paris	17	226
Parish	14	490
Parishville	1	712
Parkston	49	250
Patchogue	61	3,824
Pattens Mills	21	250

New York Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Patterson	53	860
Pavilion	23	420
Pawling	51	848
Peakville	46	206
Pearl River	54	1,560
Peconic	61	606
Peekskill	55	15,245
Pelham	55	681
Pelham Manor	55	852
Pembroke	23	350
Pendleton	9	250
Penfield	11	760
Pennellville	14	250
*Penn Yan	27	4,597
Perkinsville	41	460
Perry	24	4,388
Perrysburg	39	360
Perrys Mills	3	280
Perryville	16	226
Perth	18	676
Peru	3	2,354
Peruville	29	250
Peterboro	16	330
Petersburg	37	460
Pharsalia	31	972
Phelps	26	1.354
Philadelphia	4	842
Philmont	48	1,813
Phoenica	50	316
Phoenix	14	1,642
Piercefield	1	750
Piermont	54	1,380
Pierrepont	1	1,953
Pierrepont Manor	4	252
Piffard	25	250
Pife	24	422
Pine Bush	52	560
Pine City	43	260
Pine Hill	50	417
Pine Plains	51	1,500
Pine Valley	43	208
Pittsford	11	1,205
Plainville	15	250
Plattekill	50	260
*Plattsburg	3	11,138
Pleasant Plains	51	489
Pleasant Valley	51	427
Pleasantville	55	2,207
Plessis	4	240
Poestenkill	37	360
Point Chautauqua	38	262
Poland	6	332
Pompey	15	2,381
Pompey Center	15	250
Ponds	11	860
Poolville	16	250
Portage	25	450
Port Byron	13	1,085
Port Chester	55	12,809
Port Crane	45	530
Port Dickinson	45	437
Porter Corners	20	210
Port Ewen	50	1,211
Port Gibson	26	460
Port Henry	8	2,266
Port Jefferson Station	61	2,156
Port Jervis	52	9,564
Portland	38	506
Port Leyden	5	764
Portville	39	758
Port Washington	60	3,066
Potsdam	1	4,036
Pottersville	19	320
*Poughkeepsie	51	27,936
Prattsburg	41	684
Prattsville	47	384
Preble	30	847
Presho	41	302
Preston	31	260
Preston Hollow	36	250
Princetown	35	653
Prospect	17	278
Protection	22	260
*Pulaski	14	1,788
Pulteney	41	1,384
Pultneyville	12	250
Purdy's Station	55	230
Putnam	21	505
Pyrites	1	260
Q		
Quaker Bridge	39	220
Quaker Street	35	420
Quarayville	50	350
Queens	59	284,041
Queensbury	19	16,781
Quogue	61	260
R		
Ramapo	54	566
Randallsville	16	250
Randolph	39	1,298
Ransomville	9	522
Rathbone	41	973
Ravena	36	1,260
Raymondville	1	726
Readburn	46	220
Reading Center	42	1,412
Red Creek	12	457
Redfield	14	792
Red Hook	51	960
Red House	39	560
Redwood	4	560
Remsen	17	421
Rensselaer	37	10,711
Rensselaer Falls	1	443
Rensselaerville	36	1,628
Reserve	22	622
Result	47	239
Rexford	20	426
Reynoldsville	42	290
Rhinebeck	51	1,548
Rhinecliff	51	690
Richburg	40	451
Richfield	32	250
Richfield Spgs	32	1,503
Richford	44	350
Richland	14	468
*Richmond	57	85,969
Richmond Hill	59	1,890
Richmondville	34	599
Richville Station	1	307
Ridgeway	10	390
Rifton	50	745
*Riverhead	61	2,500
*Rochester	11	218,149
Rock City Falls	20	220
Rock Glen	24	260
Rockland	49	366
Rockland Lake	54	550
Rock Rife	46	290
Rock Stream	27	220
Rockville Center	60	3,667
Rockwood	18	326
Rocky Point	61	260
Rodman	4	206
Rome	17	20,497
Romulus	28	202
Ronkonkoma	61	230
Roosevelt	60	1,026
Roscoe	49	1,020
Rose	12	990
Roseboom	32	200
Rosendale	50	1,125
Roseton	52	2,062
Roslyn	60	2,847
Rossie	1	1,192
Rossler	22	250
Rotterdam	35	4,198
Rotterdam Jct	35	360
Rouses Point	3	1,638
Roxbury	46	499
Ruby	50	285
Ruralgrove	33	225
Rush	11	299
Rushford	40	598
Rushville	27	463
Russell	1	399
Russia	3	251
Rye	55	3,964
S		
Sacket Harbor	4	868
Sag Harbor	61	3,418
St. Bonaventure	39	399
Saint Huberts	8	1,211
Saint James	61	351
Saint Johns	54	299
Saint Johnsville	33	2,536
Saint Regis Falls	2	1,324
Saint Remy	50	251
Salamanca	39	5,792
Salem	25	1,251
Salisbury	6	230
Salisbury Center	6	298
Salisbury Mills	52	351
Salt Point	51	266
Sammonsville	18	301
Samsonville	50	222
Sanborn	9	278
Sandlake	37	488
Sandusky	39	301
Sandy Creek	14	617
Sangerfield	17	226
Sanitaria Springs	45	200
Santa Clara	2	299
Saranac	3	4,983
Saranac Lake	2	3,834
Saratoga Springs	20	12,693
Sardinia	22	499
Saugerties	50	3,929
Sauquoit	17	596
Savannah	12	521
Savona	41	587
Sayville	61	3,927
Scarsdale	55	633
Schaghticoke	37	765
*Schenectady	35	72,826
Schenevus	32	576
Schodack Landing	37	399
*Schoharie	34	996
Schroon Lake	8	1,214
Schuyler Falls	3	1,642
Schuyler Lake	32	351
Schuylerville	20	1,614
Scio	40	811
Scipioville	13	200
Scotia	35	2,957
Scott	30	708
Scottsburg	25	299
Scottsville	11	784
Scriba	14	2,241
Scriba	14	200
Sea Breeze	11	1,998
Sea Cliff	60	1,694
Seaford	60	716
Seaverton	1	290
Selkirk	36	262
Sempronius	13	594
Seneca Castle	26	299
Seneca Falls	28	6,588
Sennett	13	1,859
Setauket	61	599
Shandaken	50	241
Sharon	34	1,993
Sharon Springs	34	459
Shelby	10	299
Sheldrake	28	200
Shelter Island	61	401
Shelter Island Heights	61	1,199
Sherburne	31	961
Sheridan	38	251
Sherman	38	836
Sherman Park	55	450
Sherrill	17	301
Shokan	50	401
Shortsville	26	1,112
Short Tract	40	510
Shrub Oak	55	325
Shushan	21	501
Sidney	46	2,507
Sidney Center	46	462
Silver Creek	38	2,512
Silver Springs	24	974
Sinclairville	38	542
Skaneateles	15	1,615
Skaneateles Falls	15	501
Slaterville Springs	29	401
Slingerlands	36	501
Sloan	22	1,259
Sloansville	34	201
Sloatsburg	54	1,125
Smithboro	44	251
Smiths Basin	21	251
Smithtown	61	301
Smithtown Branch	61	528
Smithville	4	201
Smithville Flats	31	1,318
Smithville South	60	601
Smyrna	31	257
Sodom	19	201
Sodus	12	1,201
Sodus Center	12	351
Sodus Point	12	701
Solon	30	541
Solvay	15	5,189
Somerset	9	301
Sonyea	25	301
Southampton	61	2,509
South Amsterdam	33	31,267
South Argyle	21	281
South Berlin	37	210
South Bethlehem	36	501
South Bloomfield	26	200
South Bristol	26	1,104
South Butler	12	351
South Byron	23	251
South Cambridge	21	201
South Clyde	12	269
South Colton	1	251
South Corinth	20	201
South Dayton	39	601
South Edmeston	32	201
South Fallsburg	49	401
South Glen Falls	20	2,247
South Harthford	21	318
South Horicon	19	1,582
South Jamesport	61	301
South Lansing	29	501
South Millbrook	51	201
South New Berlin	31	401
South Nyack	54	2,068
Southold	61	1,501
South Onondaga	15	251
South Otselic	31	301
Southport	43	251
South Wales	22	301
Southwest Oswego	14	326
Spafford	15	1,131
Sparkill	54	951
Sparrow Bush	52	401
Spencer	44	569
Spencerport	11	1,001
Spencertown	48	315
Split Rock	15	301
Spragueville	1	201
Sprakers	33	319
Spring Brook	22	201
Springfield Center	32	275
Spring Glen	50	209
Springs	61	339
Spring Valley	54	2,353
Springville	22	2,246
Springwater	25	601
Staatsburg	51	399
Stamford	46	973
Stanfordville	51	399
Stanley	26	451
Starkey	27	1,662
Starlake	1	201
Steamburg	39	251
Steele	28	351
Stephentown	37	251
Stephentown Center	37	200
Sterling	13	351
Sterling Station	13	2,221
Stillwater	20	1,004
Stittville	17	351
Stockbridge	16	301
Stockport	48	701
Stockton	38	601
Stone Ridge	50	225
Stony Brook	61	844
Stony Creek	19	910
Stony Point	54	951
Stottville	48	721
Stratford	18	652
Streetroad	8	201
Strykersville	24	528
Stuyvesant	48	401
Stuyvesant Falls	48	925
Suffern	54	2,663
Summer Hill	13	669
Summit	34	1,146
Summitville	49	223
Swormville	22	301
Syosset	60	401
*Syracuse	15	137,249
T		
Taberg	17	331
Taborton	37	200
Tallman	54	206
Tannersville	47	660
Tappan	54	301
Tarrytown	55	5,601
Taylor	30	759
Taylor Valley	30	806
Theresa	4	932
Thiells	54	301
Thompsonville	49	201
Thousand Island Park	4	401
Throopsville	13	984

New York Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Thurman	19	833
Ticonderoga	8	2,475
Tilly Foster	53	290
Tioga Center	44	299
Tivoli	51	1,034
Toddsville	32	301
Tompkins Cove	54	1,201
Tonawanda	22	8,291
Town Line	22	351
Treadwell	46	275
Trenton	17	317
Trenton Falls	17	289
Trides Hill	33	368
Troupsburg	41	225
Trout Brook	46	201
Trout River	2	214
*Troy	37	76,831
Trudeau	8	225
Trumansburg	29	1,188
Truthville	21	201
Truxton	30	1,186
Tuckahoe	55	2,772
Tully	15	551
Tunesassa	39	201
Tupper Lake	2	3,057
Tupper Lake Junction	2	299
Turin	5	349
Turnwood	50	301
Tuscarora	45	201
Tuxedo Park	52	2,001
Tyre	28	808
Tyrone	42	1,411
U		
Unadilla	32	1,175
Unadilla Forks	32	1,009
Union	45	1,544
Union Center	45	201
Union Grove	46	201
Union Springs	13	798
Unionville	52	351
Upper Jay	8	501
Upper Nyack	54	591
Urbana	41	2,517
*Utica	17	74,419
V		
Valatie	48	1,219
Valhalla	55	690
Valley Cottage	54	280
Valley Falls	37	835
Valley Stream	60	2,709
Valois	42	360
Van Etten	43	476
Vanhornesville	6	350
Varna	29	206
Varysburg	24	462
Vermilion	14	220
Vernon	17	451
Vernon Center	17	210
Verona	17	301
Verplanck	55	999
Versailles	39	290
Vesper	15	216
Vestal	45	2,076
Vestal Center	45	301
Veteran	50	401
Victor	26	881
Victory	13	1,316
Victory Mills	20	748
Virgil	30	201
Voorheesville	36	533
W		
Waddington	1	731
Wading River	61	397
Walden	52	4,004
Wales Center	22	290
Wallace	41	234
Wallkill	50	790
Walton	46	3,102
Walworth	12	451
*Wampsville	16	212
Wantagh	60	710
Wappingers Falls	51	3,195
Warner	15	590
Warnerville	34	263
Warrensburg	19	2,109
*Warsaw	24	3,206
Warwick	52	2,218
Washington Hollow	51	251
Washington Mills	17	301
Washingtonville	52	301
Wassaic	51	251
Waterford	20	3,245
*Waterloo	28	3,931
Water Mill	61	301
Waterport	10	321
*Watertown	4	26,730
Waterville	17	1,410
Watervliet	36	15,074
*Watkins	42	2,817
Watts Flats	38	400
Waverly	44	4,855
Wawarsing	50	202
Wayland	41	1,392
Webb Mills	43	206
Webster	11	1,032
Weedsport	13	1,344
Wegatchie	1	210
Wells	7	925
Wells Bridge	32	260
Wellsburg	43	432
Wellsville	40	4,382
West	39	201
West Bethany	23	215
West Bloomfield	26	301
Westburg	13	351
Westburg	60	387
West Camp	50	251
West Carthage	4	1,393
West Chazy	3	251
West Coxsackie	47	501
Westdale	17	211
West Danby	29	312
West Eaton	16	511
West Edmeston	32	222
Westernville	17	311
West Falls	22	299
Westfield	38	2,985
West Fort Ann	21	206
West Fulton	34	211
West Galway	17	312
West Granville	21	311
West Hampton	61	448
West Hampton Beach	61	251
West Haverstraw	54	2,360
West Hebron	21	211
West Hurley	50	521
West Kill	47	220
West Leyden	5	612
West Milton	20	211
West Monroe	14	914
Westmoreland	17	351
West Nyack	54	231
Weston	42	311
West Oneonta	32	299
Westons Mills	39	511
West Point	52	1,212
Westport	8	692
West Rush	11	220
West Salamanca	39	532
West Sand Lake	37	311
West Saugerties	50	206
West Sayville	61	921
West Stephentown	37	381
West Stockholm	1	211
Westtown	52	211
West Union	41	1,112
West Valley	39	461
Westville	2	1,146
West Walworth	12	298
West Webster	11	211
West Winfield	6	726
Westhersfield Springs	24	206
Wevertown	19	225
Wheeler	41	1,114
Wheelers	14	311
Whippleville	2	206
White Creek	21	560
Whitehall	21	4,917
White Lake	49	798
White Lake Corners	17	251
*White Plains	55	15,949
Whiteport	50	690
Whitesboro	17	2,375
White Sulphur Springs	49	251
Whitesville	40	398
Whitfield	50	214
Whitney Point	45	744
Willard	28	200
Willet	30	685
Williamson	12	651
Williamstown	14	954
Williamsville	22	1,105
Willow	50	200
Willowemoc	49	251
Willowvale	17	490
Willsboro	8	1,629
Willseyville	44	561
Wilmington	8	575
Wilson	9	655
Windham	47	351
Windsor	45	637
Windsor Beach	11	411
Winthrop	1	351
Wiscoy	40	265
Wolcott	12	1,216
Wolcottsburg	22	245
Wolcottsville	9	811
Woodbourne	49	351
Woodbury	60	366
Woodhull	41	316
Woodstock	50	351
Worcester	32	1,211
Worth	4	728
Wrights Corners	9	211
Wurtsboro	49	478
Wyoming	24	526
Y		
Yaphank	61	3,151
Yonkers	55	79,803
York	25	512
Yorkshire	39	390
Yorkville	17	691
Youngstown	9	555
Youngsville	49	275
Z		
Zurich	12	200

NEW YORK STATE

Having the Advantage of Age, Experience, Central Location, Ocean Shipping, Port of Landing, and Superior Transportation Facilities.

Examination of location, in a study of New York State, reveals why this is the **foremost state** in the Union in several respects. **First,** it is a **large** state, **second** it is an **old** state, **third** it has a **healthy** climate and fertile soil, and **fourth,** in means of transportation it is so accessible for immigration, and so favorably situated to reach all the best markets, with agricultural and manufactured production it is not surprising that there is a large population to the square mile.

In fact, the surprise is that there is not a greater density of population. With every natural advantage, in productive soil, rivers, canals and railroads, with highly favorable climate, with a rapidly increasing population calling for every agricultural product which can be raised, it is clearly evident that land must become **much more valuable** than it now is in all portions of the state.

ADVANTAGE OF LARGE POPULATION.

Density of population largely determines real estate values. A small store space on Broadway, New York, or on State Street, in Chicago, will bring a large annual rental because **so many thousands** of people go by that store every day. It is true that goods may not increase in price, but the great number called for with some profit on each article sold is what brings the ultimate large profit in the aggregate.

Thus the vast increase in population throughout New York State means a greater and greater **demand** for food and a consequent greater profit because of the larger business.

Only about one-half of the State of New York is under cultivation at the present time. And this with eight millions of people. When three milions more are added to the population and there is a third greater demand, the land to supply that demand for food must yet be a good deal more valuable.

COMPETING WITH WESTERN LANDS.

It is true that the opening of new western lands will increase the volume of foodstuff, but it will always cost a certain percent of income to **transport** goods, and the nearer to market the products are produced, the greater the **saving** on transportation, the greater the **profit** on farm products, and the more valuable is nearby land.

ADVANTAGE OF BEING NEAR MARKETS.

With fertility of soil kept up, with all the up-to-date appliances in use for growing crops, it is not possible to conceive that **far away land** can be worth as much as that which is nearer to market. **The nearby farmer** is ahead of the western agriculturist all the time in **cost of transportation,** and therein largely lies his profit.

New York Opportunities in Agriculture and Varied Enterprises

Before going West it is well for the land seeker to come into communication with real estate market conditions near him.

It may be well to buy a small place near a manufacturing city, go into intensive farming, cultivate very thoroughly a small tract of land, raise what the people **want**, get it to market **fresh** and in the best possible condition.

It seems folly for people to leave conditions which are as good at home as abroad, to go far away into a **new land** among strangers, when it is possible to do **as well** or perhaps **better** in the immediate vicinity of where they have always lived.

Another factor to be considered is the immense amount of manufacturing going forward in this state. If the family is large and the farm is small it is often of advantage to have opportunity for some members of the household to work in a nearby factory while others till the farm.

What New York in manufacturing is, compared with the four greatest manufacturing states in the Union, is seen by the number of **wage-earners** which each state employs. Thus, Illinois had in a recent census, 379,436; Massachusetts, 488,399; Pennsylvania, 763,382, while New York had 856,947, or nearly 100,000 more wage-earners employed than Pennsylvania.

ONE-HALF OF THE STATE YET CULTIVATED.

New York's annual payroll to workmen in manufactories was $430,014,851. But this is **only** the beginning. With the harnessing of waters in the **one hundred and thirty rivers** in the State, with the development of electric power, as yet **only commencing**, we may imagine that New York, with only half its land surface under cultivation, will find room and opportunity for thousands of other land-seekers **right here,** within the boundaries of the State.

In a journey throughout the State investigation shows that **New York** stands **first** in dairy products and in **number** and **value** of nurseries. **Broom corn** has long been the staple of the Mohawk Valley, **hops** have been an important crop in Oneida, Madison, Otsego and Schoharie Counties. Wayne County produces more **dried fruit** than any county in the State, and is also famous for its **oil of peppermint. Grapes** are successfully grown in the **lake region** of the central part of the State, in the Valley of the Hudson, below the Highlands, and in the north shore of Long Island.

Maple sugar is an important product in northern and central New York; **and fruits,** including apples, peaches, pears and strawberries are largely grown in the western counties north of the watershed; while **peaches** are an important crop in Ulster County. **Large tracts** of land in the vicinity of New York City, and particularly on Long Island, are devoted to market gardening and dairying, and the inhabitants supply milk, butter, cheese, eggs, vegetables, and small fruits to the markets of the metropolis.

HEALTH AND PLEASURE RESORTS IN THE STATE OF NEW YORK.
BEAUTIFUL PICTURESQUE VIEWS.

Another feature of New York which many people forget, and a multitude of people know nothing about, is the scenic attractions of the State. As their beauties become known they are visited by thousands of tourists annually and great wealth is coming to the State from that source. We **could fill a volume** descriptive of New York pleasure resorts, but content ourselves with mention of only a few interesting points, thus:

FIVE COUNTIES IN ADIRONDACKS.

Adirondack Mountains, N. Y. Northeastern New York, comprising the Counties of Hamilton, Franklin, Essex and Clinton, is now known to sportsmen and pleasure-seekers as the Adirondacks. A chain of mountains extends through the counties named, from northeast to southwest, on an elevated plateau, or ridge, which is nearly 2,000 feet higher than the surface of the Atlantic Ocean. Five of these mountains are remarkable for their height. Mount Marcy, the tallest, rises 5,337 feet above the sea-level; Mounts St. Anthony and McMartin are each estimated to be 5,000 feet, and Mounts Emmons and McIntyre, 4,000 feet above it. Owing to the irregularity of the mountain chain, and the consequent effect upon the country, the scenery is grand and romantic. The rivers Au Sable and Saranac, originating in the recesses of the mountains, flow into Lake Champlain, on the east, while the Cedar and Boreas rivers, uniting with the headwaters of the Hudson, empty into that stream. There are numerous other rivers and creeks throughout the Adirondack region, with several ponds and lakes of varied magnitude, which add much to the grandeur and excellence of this famous resort. Game and fish are found within its borders. On the mountains abound groves and forests of ash, birch, beech, maple, hemlock, spruce, cedar, tamarack, fir and white pine trees. Rapids and falls in the streams, which are principally navigable for light boats, add diversity to the rugged surroundings. Tourists are conveyed by boats and footpaths to the numerous places of summer resort. Timber and iron ore form the principal staple productions of the Adirondack region, which is accessible by several railroad and water routes.

LINE OF STEAMERS IN ADIRONDACKS.

Blue Mountain Lake. In the Adirondack (N. Y.) Region, at the base of Blue Mountain, rising to a height of 3,824 feet, lies this beautiful sheet of water, which forms one of the finest attractions of this great resort. A line of steamers makes daily trips through this and the neighboring lakes, Raquette, Eagle and Utowana, a distance of twenty miles, and even twenty miles further, passing through Forked Lake and Long Lake to Saranac. Blue Mountain Lake is 3½ miles long and 2 miles wide; Eagle Lake, 2 miles long and ½ mile wide; Utowana Lake, 3 miles long and 1 mile wide.

DESCRIPTION OF NIAGARA FALLS.

Niagara Falls, N. Y. By act of Congress, in 1885, this great cataract became a national public park. The river is 33 miles long. Lake Erie is 334 feet higher than Lake Ontario, into which the river empties. Within a mile above the falls the descent is 52 feet. The total width of the river at Goat Island is 4,750 feet. The height of the waterfall on the American side is 164 feet, and on the Canadian side about 150 feet. The new Niagara Suspension Bridge is 1,300 feet long, and 190 feet above the river. Its towers are each 100 feet high. The stairway beside the inclined railway has 290 steps. Goat Island was so named from goats placed there about the year 1790 by Mr. John Stedman, who left them so uncared for during one winter that they died of exposure. There are seventeen islands in the river, near each other, above the Falls, all owned by the estate of Peter B. Porter, to whom the property was ceded by the State of New York in 1818. The height of the river bank at the Biddle Staircase is 185 feet. The old Suspension Bridge, 2 miles below the Falls, has a floor for the railway 60 feet wide, and the track is 258 feet above the river. The length of the bridge from the center of the towers at each end is 822 feet. The height of the towers on the American side is 88 feet, and on the Canadian side, 78 feet. The width of the river at the whirlpool is 300 feet, and its estimated depth is 250 feet.

PLACID WATERS WITH 1,692 ISLANDS.

Alexandria Bay, N. Y. At the approach of the St. Lawrence River, a short distance east of Kingston, Can., the tourist enters Alexandria Bay, quite as frequently designated "The Lake of the Thousand Isles," and which extends down the St. Lawrence forty miles, with a breadth of five miles. The scenery on this lake is among the finest on the continent. Scattered here and there, everywhere throughout the placid waters, lie 1,692 islands, of every conceivable size and shape; some being mere rocky projections above the surface; others, nearly as small, covered with verdure, while others, of larger size, are luxuriant in shade trees and grassy plats, and often lying in most attractive clusters. One is 12 miles in length and 2 miles wide. The beautiful color of the leaves and grass is attributed to the bountiful supply of water surrounding the islands. Lighthouses, indicating the frequent changes in the channel of the stream, add greatly to the picturesque diversity of the scenery; and on other islands have been erected elegant residences, with ornamental grounds. Hotels abound at several points, and boating, fishing and hunting offer variety and pleasure to the seeker of rest and recreation.

RUGGED AND ROMANTIC DEEP GORGE.

Watkins Glen, N. Y. Eighty rods from Watkins Station, near the head of Seneca Lake, a vast gorge in a tall, rocky bluff, 500 feet high, through which flows a noisy mountain stream, forms the glen, extending a distance of about 3 miles. The scenery is rugged and romantic in the deep gorge, with cascades and towering rocks, a dark pool, narrow footpaths, hemlock trees, difficult stairways and a balcony overhanging the gorge; solitude and grandeur distinguish the place, and the admirer of nature may here view it in its wildest phases. Prominent objects are the Mountain House, a chalet cottage, an iron suspension bridge across the gorge, an art gallery, Glen Cathedral (amphitheater 1,000 feet long), Rainbow Falls, Pluto Falls, Omega Falls, etc. Other glens in the vicinity present additional charms for the tourist.

CHASM NEARLY TWO MILES LONG.

Au Sable Chasm. Among the many remarkable features of the Adirondack region in New York, as described above, is a natural chasm in the Potsdam sandstone, through which the Au Sable river flows from the northern termination of the Adirondack Mountains toward Lake Champlain. This channel is in some places nearly two hundred feet deep, and overshadowed by cedar trees and tall precipices of varied shapes. At one point the channel is only ten feet in width, while at another it expands to fifty feet. The chasm is nearly two miles long, and the dark and raging waters dash madly down shallow rapids, cascades and falls, leaping in one place a distance of twenty feet, and at another, sixty feet—the whole forming a scene that rivals the famous cataracts of mountain streams in Switzerland. The surroundings are as remarkable as the chasm itself, embracing views of mountain ranges and peaks, and Lake Champlain. The pleasure-seeker in this locality may enjoy fine drives and rambles, fresh air and good fishing stations.

SOME OF THE FINEST SCENERY IN AMERICA.

West Point, N. Y. The early history of the Union is intimately connected with this beautiful place on the west bank of the Hudson River, 52 miles north of New York City. In the Revolutionary War, the neighborhood bristled with forts built by Colonial troops. Above the river at an altitude of 600 feet may still be seen the ruins of Fort Putnam, and from that deserted fortress the tourist may view some of the finest scenery in America. The Government Military Academy and grounds, where so many great warriors have been educated, are finely located and ably maintained. Kosciusko's Monument is a prominent feature at this delightful resort.

LARGE AND SMALL LAKES IN NEW YORK STATE.

LAKES IN NEW YORK.	Miles long.	Miles wide.
Amber Lake, Hamilton Co	2	½
Ballston Lake, Saratoga Co	3	1
Beaver River Lake, Lewis Co	2	1
Black Lake, St. Lawrence Co	20	2
Blodgett's Pond, Wyoming Co	¾	⅜
Blue Mountain Lake, Hamilton Co	3½	2
Brant Lake, Warren Co	5	½
Buonaparte Lake, Lewis Co	5	3
Canandaigua Lake, Ontario Co	15	¾ to 1½
Cayuga Lake, Cayuga Co	28	1 to 3½
Catamount Lake, St. Lawrence Co	1½	1
Catlin Lake, Essex Co	3	½
Chautauqua Lake, Chautauqua Co	18	1 to 3
Chasy Lake, Clinton Co	3	1¼
Crooked Lake, Yates Co	18	1½
Cranberry Lake, St. Lawrence Co	9	3
Cross Lake, Onondaga Co	5	¼
Eagle Lake, Hamilton Co	2	½
Fern Lake, Clinton Co	1	½
Greenwood Lake, Orange Co	12	1
Harris Lake, Essex Co	2	½
Horseshoe Pond, St. Lawrence Co	1½	½
Indian Pond, St. Lawrence Co	1	½
Java Lake, Wyoming Co	¾	⅜
Jourdan Lake, St. Lawrence Co	2	1
Leet's Lake, Kalkaska Co	2	1
Lincoln Lake, Mason Co	4	⅓
Little Clam Lake, Wexford Co	3	1
Loon Lake, Iosco Co	2	1
Loon Lake, Oakland Co	½	¼
Long Lake, Kalamazoo Co	2	½
Lower Saranac Lake, Franklin Co	6	2
Massewepie Lake, St. Lawrence Co	2	½
Minnewaska Lake, Ulster Co	½	⅛
Mohonk Lake, Ulster Co	½	⅛
Mud Lake, St Lawrence Co	1½	½
Oneida Lake, Oneida Co	20	4 to 7
Onondaga Lake, Onondaga Co	7	¾
Oswegatchie Lake, Lewis Co	2¾	½ to 1
Otisco Lake, Onondaga Co	7	¾
Otsego Lake, Otsego Co	7½	1½
Owasco Lake, Cayuga Co	11	1½
Owazena Lake, Madison Co	3	1
Rich Lake, Essex Co	1⅜	⅛
Round Lake, Saratoga Co	1	1
St. Regis Lake, Franklin Co	4	½
Saratoga Lake, Saratoga Co	7	3
Schroon Lake, Essex Co	10	1½
Schuyler Lake, Otsego Co	5	1½
Seneca Lake, Seneca Co	36	2
Silver Lake, Wyoming Co	3	1
Silver Lake, Clinton Co	2	¾
Skaneateles Lake, Onondaga Co	15	1½
Spitfire Lake, Franklin Co	1½	1½
Sylvia Lake, St. Lawrence Co	1½	¾
Taylor Pond, Clinton Co	1½	½
Topper's Lake, Hamilton Co	6	2
Trout Lake, Warren Co	2	½
Trout Lake, St. Lawrence Co	2	¾
Upper Chateaugay Lake, Clinton Co	3	1½
Upper Saranac Lake, Franklin Co	7	1
Utawara Lakes, Hamilton Co	3	1
Yellow Lake, St. Lawrence Co	4	½

HISTORY, CLIMATE AND HIGHEST ALTITUDE IN NEW YORK STATE.

Altitude. Highest, Mount Marcy, in the Adirondack Mountains, Essex County, 379 feet.

Climate. Length of season from blooming of apple trees to first killing frost, 174 days; though on Long Island it is twelve and one-half days longer and in St. Lawrence County twenty-two days shorter. The average summer temperature at Albany is 70.43 degrees, at Buffalo 67.73, at New York 76.62. The average winter temperature at Albany is 25.26, at Buffalo 26.28, at New York 31.93. Average yearly temperature of State, 46.49. Average annual fall of rain and snow, State, 40.93 inches; at New York 43.24 inches. Warmest temperature at Albany, 100 above; coldest, 24 below; at New York, warmest, 100 degrees above; coldest, 6 degrees below.

Dimensions. Extreme length from north to south, 310 miles; extreme breadth, from east to west, 320 miles.

History. Was one of the thirteen original states. Admitted to Union in 1788. Northern part of State explored by Champlain, 1609. New York Bay and Hudson river up as far as Albany visited by Hudson in 1609. A fort built by the Dutch on Manhattan Island in 1613. Manhattan Island was bought of the Indians by Peter Minuet, the first Dutch governor, for 60 guilders, about $24, named New Amsterdam and settlement made thereon in 1623. Suffered from Indian wars, 1641. Captured by the English 1664, recaptured by the Dutch 1673. Charter granted by Charles II to Duke of York, covering Manhattan Island and other territory, and name of New Amsterdam changed to New York. Robert Fulton's first steamboat voyage to Albany, 1807. In 1812 steam ferry to Long Island opened and was introduced in 1825. Erie Canal opened and first boat from Buffalo, 1825. Croton Aqueduct completed in 1842. First city railroad built in 1852 and Chrystal Palace opened in 1853. Tweed Ring broken in 1871 and Brooklyn Bridge opened in 1883.

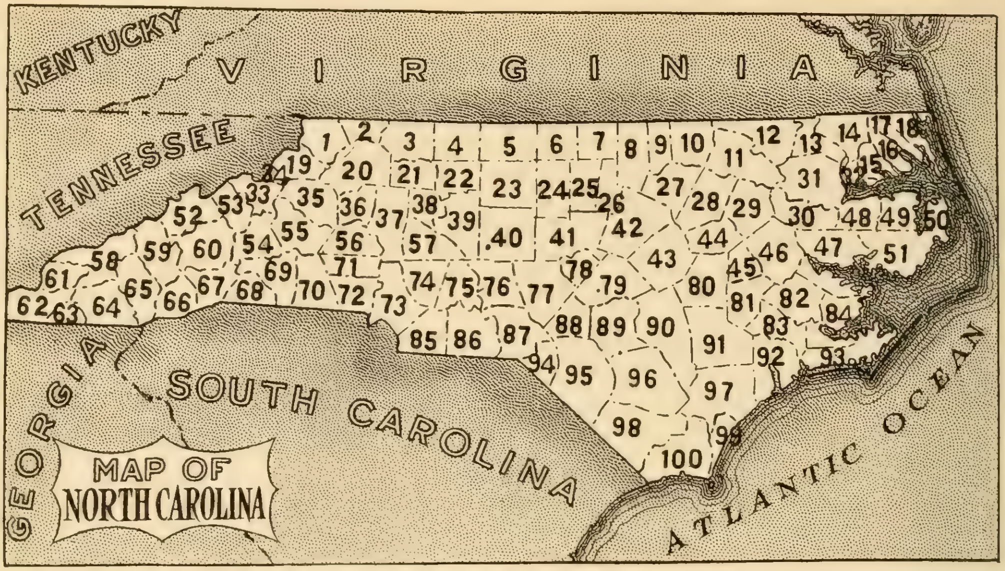
Railroads, miles of, in State, 8,336.30.

ATTRACTIVE LAKE AND RESORT.

Saratoga Springs, New York. Widely known as a fashionable health resort and occasional aquatic display on the lake. See population 12,693. Located 32 miles northwest of Albany. Contains 28 springs, all powerfully charged with carbonic acid gas. Regarded as valuable aids in curing cutaneous and liver diseases, dyspepsia and chronic affections of the bowels. Large quantities of the waters, especially of the Congress, Empire and Hathorn Springs, are bottled and exported. Depth of High Rock Spring from top of the rock is 32 feet.

STATE AND THE 100 COUNTIES OF NORTH CAROLINA

With Their Boundaries



LOCATION AND 1910 POPULATIONS OF NORTH CAROLINA COUNTIES.

Loca.	*County*	*Pop.*
1	Ashe	19,074
2	Alleghany	7,745
3	Surry	29,705
4	Stokes	20,151
5	Rockingham	36,442
6	Caswell	14,858
7	Person	17,356
8	Granville	25,102
9	Vance	19,425
10	Warren	20,266
11	Halifax	37,646
12	Northampton	22,323
13	Hertford	15,436
14	Gates	10,455
15	Perquimans	11,054
16	Pasquotank	16,693
17	Camden	5,640
18	Currituck	7,693
19	Watauga	13,556
20	Wilkes	30,282
21	Yadkin	15,428
22	Forsyth	47,311
23	Guilford	60,497
24	Alamance	28,712
25	Orange	15,064
26	Durham	35,266
27	Franklin	24,692
28	Nash	33,727
29	Edgecomb	32,010
30	Marten	17,797
31	Bertie	23,039
32	Chowan	11,303
33	Mitchell	17,245
34	Avery	....
35	Caldwell	20,579
36	Alexander	11,592
37	Iredell	34,315
38	Davie	13,394
39	Davidson	29,404
40	Randolph	29,491
41	Chatham	22,635
42	Wake	63,229
43	Johnson	41,401
44	Wilson	28,269
45	Greene	13,083
46	Pitt	36,340
47	Beaufort	30,877
48	Washington	11,062
49	Tyrell	5,219
50	Dare	4,841
51	Hyde	8,840
52	Madison	20,132
53	Yancey	12,072
54	McDonald	13,588
55	Burke	21,408
56	Catawba	27,918
57	Rowan	37,521
58	Swain	10,403
59	Haywood	21,020
60	Buncombe	49,798
61	Graham	4,749
62	Cherokee	14,136
63	Clay	3,909
64	Macon	12,198
65	Jackson	12,998
66	Transylvania	7,191
67	Henderson	16,262
68	Polk	7,640
69	Rutherford	28,385
70	Cleveland	29,494
71	Lincoln	17,132
72	Gaston	37,063
73	Mcklenburg	67,031
74	Babarrus	26,240
75	Stanly	19,909
76	Montgomery	14,967
77	Moore	17,010
78	Lee	11,376
79	Harnett	22,174
80	Wayne	35,698
81	Lenoir	22,769
82	Craven	25,594
83	Jones	8,721
84	Pimlico	9,966
85	Union	33,277
86	Anson	25,465
87	Richmond	19,673
88	Hoke	.....
89	Cumberland	35,285
90	Sampson	29,982
91	Duplin	25,442
92	Onslow	14,125
93	Carteret	13,776
94	Scotland	15,363
95	Robeson	51,945
96	Bladen	18,006
97	Pender	15,471
98	Columbus	28,020
99	New Hanover	32,037
100	Brunswick	14,432
	Total	2,206,056

North Carolina Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
Aberdeen	77	794
Advance	38	283
Ahoskie	13	924
*Albemarle	75	2,166
Altamahaw	24	366
Andrews	62	936
Angier	79	221
Ansonville	86	486
Apex	42	681
*Ashboro	40	1,865
*Asheville	60	18,762
Atlantic	93	524
Aulander	31	543
Aurora	47	440
Avon	50	409
Ayden	46	990
Aydlett	18	309
B		
*Bakersville	33	416
Bath	47	283
Battleboro	28	211
*Bayboro	84	370
*Beaufort	93	2,483
Bee Log	53	308
Bee Tree	60	206
Belhaven	47	863
Belmont	72	1,176
Benson	43	860
Bessemer City	72	1,529
Bethel	46	469
Biscoe	76	265
Black Creek	44	219
Black Mountain	60	311
Bladenboro	96	276
Bluemont	60	200
Blowing Rock	19	261
Boardman	98	796
Boonville	21	282
Bostic	69	209
*Brevard	66	919
Bridgeton	82	348
Bridgewater	55	280
Brookford	56	725
*Bryson City	58	612
Buffalo City	50	200

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

North Carolina Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Bines Creek	79	249
*Burgaw	97	956
Burlington	24	4,808
*Burnsville	53	422
Buxton	50	366
C		
Cameron	77	259
Canton	59	1,393
Capelsie	76	490
Caroleen	69	1,892
*Carthage	77	863
Cary	42	383
Casar	70	392
Castalia	28	219
Catawba	56	222
Cedarfalls	40	222
Central Falls	40	590
Cerro Gordo	98	323
Chadborun	98	1,242
Chapel Hill	25	1,149
*Charlotte	73	34,014
Cherryfield	66	208
Cherryville	72	1,153
China Grove	57	852
Chinquapin	91	295
Claremont	56	297
Clarkton	96	276
Clayton	43	1,411
Cleveland	57	426
Cleveland Mills	70	462
Cliffside	69	1,096
*Clinton	90	1,101
Clyde	59	344
Colington	50	269
*Columbia	49	848
Como	13	390
*Concord	74	8,715
Connellys Spgs	55	566
Conover	56	421
Contentnea	45	246
Conway	12	237
Cooleemee	38	2,060
Cordova	87	650
Cornelius	73	833
Cove City	82	308
Cranberry	34	496
Creedmoor	8	324
Creswell	48	329
Cronly	98	289
Cullasaja	64	250
Cumberland	89	320
Cumnock	78	230
*Currituck	18	260
D		
Dallas	72	1,065
*Danbury	4	490
Davidson	73	1,056
Davis	93	250
Day Brook	53	309
Denton	39	320
Denver	71	282
Dillsboro	65	277
*Dobson	3	360
Dover	82	737
Draper	5	1,000
Drexel	55	200
Duke	79	500
Dunn	79	1,823
*Durham	26	18,241
E		
Earleys	13	360
East Durham	26	1,508
East Kings Mountain	72	383
East Lake	50	606
East Laurinburg	94	577
East Lumberton	95	881
East Monbo	37	250
East Spencer	57	1,729
*Edenton	32	2,789
*Elizabeth City	16	8,412
Elkin	3	886
Elk Park	34	337
Ellenboro	69	293
Elm City	44	590
Elmgrove	41	260
Elon College	24	226
Enfield	11	1,167
Engelhard	51	390
Evergreen	98	248
F		
Fair Bluff	98	441
Fairfield	51	660
Fairmont	39	432
Fairmont	95	730
Faison	91	519
Faith	57	808
Fallston	70	290
Farmville	46	816
*Fayetteville	89	7,045
Flat Rock	67	308
Forest City	69	1,592
Fort Landing	49	366
Four Oaks	43	329
*Franklin	64	379
Franklinton	27	809
Franklinville	40	566
Fremont	80	951
G		
Garner	42	284
*Gastonia	72	5,759
*Gatesville	14	203
Gibson	94	820
Gibsonville	23	1,162
Gilkey	69	220
Glen Alpine	55	308
Gold Hill	57	304
*Goldboro	80	6,107
Goldston	41	240
*Graham	24	2,504
Granite Falls	35	381
Granite Quarry	57	363
*Greensboro	23	15,895
*Greenville	46	4,101
Grifin	50	200
Grifton	46	291
Grimesland	46	330
Grover	70	209
Guilford College	23	226
Gulf	41	200
Gum Neck	49	896
H		
*Halifax	11	314
Hamilton	30	452
Hamlet	87	2,173
Harbinger	18	528
Hardin Mills	72	230
Harkers Island	93	290
Harlow	93	210
Harmony	37	290
Hatteras	50	690
Haw River	24	1,290
Hazelwood	59	428
Helton	1	226
*Henderson	9	4,503
*Hendersonville	67	2,818
Henrietta	29	1,856
*Hertford	13	1,841
Hickory	56	3,716
Hiddenite	36	250
Highland Park	73	1,560
Highlands	56	487
Highlands	64	267
Highpoint	23	9,525
Highshoals	72	1,602
*Hillsboro	25	857
Hollysprings	42	261
Hookerton	45	204
Hooverhill	40	220
Hot Springs	52	443
Howard	19	226
Hudson	35	411
Huntdale	33	280
Huntersville	73	591
I		
Icemorlee	85	398
J		
*Jackson	12	527
*Jacksonville	92	505
James City	82	1,237
Jamesville	30	398
Jarvisburg	18	490
Jonesboro	77	799
Jonesville	21	280
Juniper	50	280
K		
Kannapolis	74	566
Kelford	31	316
*Kenansville	91	270
Kenly	43	726
Kernersville	22	1,128
Kings Mountain	70	2,218
*Kinston	81	6,995
Kittrell	9	242
Kitty Hawk	18	350
Knotts Island	18	892
L		
La Grange	81	1,007
Lake Comfort	51	360
Lake Landing	51	320
Landis	57	226
Lasker	12	1,203
Lattimore	70	267
Laurel Hill	94	350
*Laurinburg	94	2,322
Lawndale	70	350
Leaksville	5	1,127
Leasburg	6	390
Leechville	47	250
*Lenoir	35	3,364
Lewara	87	474
Lewiston	31	262
*Lexington	39	4,163
Liberty	40	474
Lilesville	86	386
*Lillington	79	380
Lilly	7	390
*Lincolnton	71	2,413
Linnville	34	250
Littleton	11	1,152
Long Island	56	200
Longview	56	243
*Louisburg	27	1,775
Lowel	72	876
Lucama	44	266
*Lumberton	95	2,230
Lynn	68	290
M		
McAdenville	72	893
Madison	5	1,033
Magnolia	91	653
Maiden	56	664
Manly	77	220
Manns Harbor	50	360
*Manteo	50	408
*Marion	54	1,519
Marlborough	46	225
*Marshall	52	802
Mars Hill	52	301
Marshville	85	449
Matthews	73	396
Maxton	95	1,321
Mayesworth	72	200
Mayodan	5	874
Maysville	83	345
Mebane	24	693
Merry Oaks	41	769
Middlesex	28	467
Middle Swamp	96	220
Milton	6	419
*Mocksville	38	1,062
*Monroe	85	4,082
Mon Swamp	49	202
*Montezuma	34	254
Mooresville	37	3,409
Morehead City	93	2,039
*Morganton	55	2,712
Mortimer	35	261
Morven	86	498
Mountain Island	72	346
Mt. Airy	3	3,844
Mt. Gilead	76	723
Mt. Holly	72	526
Mt. Olive	80	1,071
Mt. Pleasant	74	753
Mt. Tabor	98	418
Moyock	18	200
Murfreesboro	13	809
*Murphy	62	977
N		
*Nashville	28	750
*Newburn	82	9,961
New London	75	312
Newport	93	321
*Newton	56	2,316
No. Charlotte	73	1,500
No. Wilkesboro	20	1,902
Norwood	75	928
O		
Oak City	30	251
Ocracoke	51	680
Old Fort	54	778
Oldtrap	17	390
Olin	37	209
Oriental	84	645
*Oxford	8	3,018
P		
Pantego	47	324
Parkewood	42	290
Parkton	95	219
Parmele	30	272
Peachland	86	232
Pee Dee	86	628
Pembroke	95	258
Pikeville	80	210
Pilot Mountain	3	652
Pine Level	43	394
Pinetops	29	211
Pinetown	47	412
Pineview	79	262
Pineville	73	688
Pinnacle	4	402
*Pittsboro	41	502
*Plymouth	48	2,165
Point Harbor	18	290
Polkton	86	287
Polloksville	83	227
Pomona	23	560
Poplar Branch	18	200
Powells Point	18	466
Princeton	43	354
Princeville	29	627
Proctor	58	290
Pungo	47	309
R		
*Raeford	88	580
Raleigh (capital)	42	19,218
Ramseur	40	1,012
Randleman	40	1,950
Red Springs	95	1,089
Reidsville	5	4,828
Rodhiss	35	370
Richfield	75	210
Richlands	92	445
Rich Square	12	367
Ridgeway	10	250
Roanoke Rapids	11	1,670
Roberdell	87	422
Robersonville	30	616
*Rockingham	87	2,155
Rocky Mount	29	805
Rocky Mount Mills	28	480
Rocky Point	97	390
Roper	48	819
Rosehill	91	364
Rowland	95	787
*Roxboro	7	1,425
Roxobel	31	491
Royal Cotton Mills	42	427
Ruffin	5	250
Rural Hall	22	309
Rutherford	55	208
*Rutherfordton	69	1,062
S		
Saginaw	34	300
Saint Helena	97	250
Saint Pauls	95	419
Salem	22	5,533
*Salisbury	57	7,153
Saluda	68	235
Sandy Ridge	4	250
*Sanford	77	2,282
Scotland Neck	11	1,726
Scranton	51	200
Seaboard	12	280
Selma	43	1,331
Sevensprings	80	208
*Shelby	70	3,127
Shelmerdine	46	400
Shore	21	308
Silver City	41	895
*Smithfield	43	1,347
*Snowhill	45	450
Sound	48	300
South Biltmore	60	238
South Creek	47	826
Southern Pines	77	542
South Mills	17	390
*Southport	100	1,484
Southside	71	290
South Wadesboro	86	202
South Washington	97	206
Spencer	57	1,915
Spray	5	6,066
Spring Hope	28	1,246
Stanley	72	321
Stantonsburg	44	204
Star	76	239
*Statesville	37	4,599
Steeds	76	290
Stoneville	5	404
Stony Point	36	330
Stovall	8	305

North Carolina Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Stubbs	70	306
Stumpypoint	50	206
Sugar Grove	19	260
Sunbury	14	208
Swansboro	92	390
Swepsonville	24	441
Sylva	65	698
T		
Tamarack	19	247
*Tarboro	29	4,129
*Taylorsville	36	662
Thomasville	39	3,877
Tillery	11	269
*Trenton	83	331
Trinity	40	332
*Troy	76	1,055
Tryon	68	760
Tuckertown	76	260
Tyner	32	590
V		
Valdese	55	208
Valmead	35	466
Vanceboro	82	391
Vandemere	84	296
Vaughan	10	420
Voss	77	273
W		
*Wadesboro	86	2,376
Wakefield	42	287
Wake Forest	42	1,443
Walkertown	22	460
Wallace	91	444
Walnut	52	215
Walnut Cove	4	480
Wanchese	50	803
*Warrenton	10	807
Waxhaw	85	602
*Washington	47	6,211
Watha	97	204
Waxham	85	602
*Waynesville	59	2,011
Weaverville	60	442
*Webster	65	301
Weldon	11	1,999
Wendell	42	759
*Wentworth	5	252
West Durham	26	2,007
West Hickory	56	846
West Lumberton	95	231
Whitakers	29	755
Whiteplains	3	251
*Whiteville	98	1,368
Whitney	75	1,502
Whittier	58	216
*Wilkesboro	20	799
*Williamston	30	1,574
*Wilmington	99	25,748
*Wilson	44	6,717
*Windsor	31	684
Winfall	15	289
Wingate	85	353
*Winston-Salem	22	17,167
Winterville	46	484
*Winton	13	624
Woodard	31	303
Woodland	12	321
Woodleigh	18	303
Worthville	40	393
Wysocking	51	801
Y		
*Yadkinville	21	432
*Yanceyville	6	338
Youngsville	27	437
Z		
Zebulon	42	483
Zephyr	3	303

NORTH CAROLINA

A State in Which Was Made the First Settlement in the United States. A Region Where a Colony Was Established, Every Member of Which Disappeared and Was Never Heard of Afterwards.

A publication entitled "The Sketch Book of North Carolina" is sent to us by the North Carolina Department of Agriculture and for the **advantage of land seekers** in "The Old North State" we quote freely from its pages.

The first settlement in the New World was made in North Carolina.

In 1584 Sir Walter Raleigh sent out two boats to explore as much as possible of this continent and the **first** land sighted was on the coast of North Carolina, near Cape Fear. After beating along the coast about a week they **anchored** in Ocracock Inlet, near a beautiful island called by the Indians Wohokon.

PRAYER AND THANKS.

At midday on the 13th of July, 1584, after a prayer of thanks that the flag of England was about to float over broader realms, Captain Amadas took possession of the land in these words:

> "We take possession of this island in the right of the Queen's most excellent majesty, as rightful Queen and Princess of the same, to be delivered over to the use of Sir Walter Raleigh, according to Her Majesty's grant and letters patent under Her Highness' great seal."

The Indians gave them **welcome and tried** to make their stay **comfortable.** After acquiring as much information as possible the expedition returned to England, taking along as curiosities of the new land two Indians, potatoes and smoking tobacco. Queen Elizabeth was greatly **pleased** with the report of Raleigh's captains and named the land Virginia, in honor of herself, the "Virgin Queen."

A COLONY SENT BY RALEIGH.

Raleigh the next year sent out a colony of 108 men to make a **permanent** settlement. These colonists landed on Roanoke Island, on the 26th of July, 1585. There they built a few cabins, fortified them and called their new home the "City of Raleigh." Becoming reduced in numbers and finding the Indians **hostile**, this colony returned to England with one of the exploring expeditions sent out by Sir Francis Drake, who visited them with a large fleet. There the **first** English settlement in the new world was **abandoned** and the City of Raleigh left tenantless.

Not discouraged, Raleigh sent out **another** fleet containing 150 men, women and children. These colonists brought with them farm tools and came determined to make themselves a home in the new country. John White was the governor of this colony.

Among these colonists was Eleanor Dare, daughter of Governor White. On the 18th of July, Mistress Dare gave birth to a daughter, the **first English-speaking child born** in America. In honor of the colony, this child was named Virginia Dare. After a stay on the island, Governor White felt impelled to return to England to get supplies for the colonists, and to try to enlarge their numbers. Upon representations of White, unwearied Raleigh **again loaded** two ships to take aid to the Roanoke colonists. But for one reason or another, White was long delayed. When **at last** he reached Roanoke, not a sign of the colonists that he had left there could be seen. Three years had passed between his going and his coming, and on his return he found the City of Raleigh as overgrown and desolate as it had been at his first visit. Upon a tree the single word "Croatan" had been rudely carved. Before White's sailing for England, he had directed the settlers to carve upon a tree the name of any place that they might find it necessary to move to. **No trace** of the lost colonists was **ever found,** and White returned to England. It is said that Raleigh sent out at least **five** separate expeditions to search for the lost colony. With their disappearance, attempts at colonization of that part of the coast ceased.

The attempts of Sir Walter Raleigh having signally failed, **no further** attempts at colonization were made for **three-quarters** of a century. In 1629, a charter was granted by Charles I of England to Sir Robert Heath of the Southern part of Virginia, latitudes 31 degrees to 36 degrees, under the **name,** in honor of that king, of Carolina. As Heath did nothing under it, a renewal was granted in 1663 to eight Lords Proprietors, and an enlargement to 36 degrees 30 seconds and 29 degrees, two years afterwards. The **first permanent** settlement in the limits of North Carolina was called the County of Albemarle. The Lords Proprietors appointed Governors of Albemarle, and then Governors, or Deputy Governors, of North Carolina until 1728. Seven of them then sold their interests to the Crown, Lord Carteret, afterwards Earl Granville, yielding the right of government, but retaining his one-eighth interest in the land of all Carolina. In 1744 he obtained a grant in severalty of about one-half of North Carolina, next to the Virginia line. The colony was therefore under the Crown from 1728 to the Revolution.

Its topography may be best conceived by picturing to the mind's eye the surface of the State as a vast declivity, sloping down from the summits of the Smoky Mountains, an altitude of nearly 7,000 feet, to the level of the Atlantic Ocean. The Smoky Mountains constitute a part of the great Appalachian chain which here attains its greatest height; the **greatest** indeed, in the United States, east of the Rocky Mountains. This slope is made up of three wide extended terraces—if that term may be allowed; the first a high mountain plateau—distinguished as the Western or **Mountain Section;** the second, a submontane plateau, distinguished as the **Middle Section** or the Piedmont Plateau region; the third, the Atlantic plain, distinguished as the Low Country or the **Coastal Plain** region, and that part from the head of the tides downward as the Tidewater section. From the first to the second section there is a sharp descent through a few miles only of not less than 1,500 feet; from the middle to the low country a descent of about 200 feet; through the two latter, however, there is a constant downward grade.

THE MOUNTAIN REGION.

Broadly considered, the mountain section may be treated as a high plateau bounded on the east by the irregular chain known as the Blue Ridge, extending across the State in a general direction from northeast to southwest, until, reaching the southeastern border of Henderson County, it turns to the west and forms for a long distance part of the **southern boundary** of the State, passing at length by a southwest projection into the State of Georgia, and again reuniting with the chain of the Smoky Mountains, to which it had made near approach on its entry into North Carolina in the counties of Ashe and Watauga.

The average elevation of the Blue Ridge is nearly 4,000 feet, though on the southern and northern extremities it drops to 3,000 feet; its lower gaps being a little above 2,000 feet over the main level of the Piedmont country.

The western boundary of this division is that long chain known under the various names of the **Iron**, the **Smoky**, and the **Unaka** Mountains, and forming the dividing line between North Carolina and Tennessee and enclosing with marked definiteness the plateau of Western North Carolina. The area of this division approximates **6,000 square miles.** The plateau is the culminating region of the Appalachian system, and contains not only its largest masses, but also its highest summits. The elevation of some of the peaks is as follows:

Mitchell's Peak, 6,711; Clingman's Dome, 6,660; Mount Buckley, 6,599; Mount Love, 6,443.

In all there are **forty-three peaks** of 6,000 feet and upwards. There are **eighty-two** mountains which in height exceed 5,000 feet, and an innumerable number exceeds 4,000 feet. The general contour of all these mountains is gentle, the summits generally presenting smooth, rounded outlines. The mountains are covered with deep **rich soil,** and clothed with **massive forests** to their tops. There is little hazard in saying that there is nowhere in any of the other States an equal area of land covered with timber trees of such various kinds, and of such value. The walnut, tulip trees (poplars), and oaks attain a size that would hardly be credited by one who had not seen them. The **preservation** of this magnificent forest is due to the fact that it has hitherto been inaccessible to transportation. Within the past few years much of it has been brought into connection with the markets of the world. **One** railroad line passes entirely through this section and another branching off at Asheville, and leading to the extreme southwest of the State, is now completed. Into the northwestern part of the State also a railroad has been completed and others projected.

DIFFERENT SOILS AT DIFFERENT ELEVATIONS.

On the **various levels** of this great State may be found a soil adapted to **varied** agricultural productions, and a delightful climate, as attested by the many pleasure and health resorts in the State.

We urge those who would acquaint themselves with the possibilities in this State to address the Department of Agriculture, Raleigh, N. C., for the sketch book of the State.

CONDENSED IMPORTANT FACTS.

Altitude. Highest, Mt. Mitchell, in the Appalachian range of mountains, extreme western part of the State, 6,711 feet.

Climate. Average January temperature at Charlotte, 51 degrees above. At Wilmington, 47. Average July temperature at Charlotte, 79; at Wilmington, 78. Warmest at Charlotte, 102; at Wilmington, 103. Coldest at Charlotte, 5 degrees below zero; at Wilmington, 5 degrees above zero. Average annual rainfall at Wilmington, 54.3 inches.

Dimensions. Extreme breadth, east and west, 520 miles. Extreme length, north and south, 200 miles. Area, 52,250 square miles.

History. One of the thirteen original States to adopt the National Constitution and enter the Union, in 1789. Colonization and some dwellings erected on Roanoke Island in 1584-7, through colonists sent out from England by Sir Walter Raleigh, but colony abandoned. (See account in general description.) First permanent settlement made at Albemarle, 1653. The Carolinas were made one province in 1665 by grant of charter by Charles II. About 1700 the province **divided** into North and South Carolinas, and separate governments were organized, followed by **large immigration** of Scotch and Scotch-Irish. From 1729 up to the Revolution North Carolina was ruled by successive governors **appointed** by the English king.

LIVE STOCK, COTTON AND RICE.

Three-fourths of the inhabitants of the state are engaged in agricultural pursuits, cotton and rice being staple products of the eastern part of the state, live stock, buckwheat and other north temperate zone products pertain to the mountain region. In one section or another of the state may be found **every agricultural product** grown between the Great Lakes and the Gulf, except the orange. **Indian corn** occupies the largest acreage and this and the other cereals are common to all sections. **Cotton** is raised in **two-thirds** of the counties. It is the **chief** market crop of the eastern and of the southern half of the middle region. In the **northern part** of the state **tobacco** replaces cotton as a market crop.

THE FISHING INTEREST.

The fisheries of the eastern rivers and sounds are **large** and profitable, and give **employment** to several thousand persons. There are about **3,000** miles of railway in the state. There are **1,000 miles** of waterway open to steamboat navigation, including rivers, bays, sounds and canals.

THE MINING INTERESTS OF NORTH CAROLINA.

Mining has long given occupation to a portion of the population. Gold was first discovered in 1819 and between that date and 1850 many gold and copper mines were opened in the middle and western sections. In the last few years mining industries have received a new impulse. Iron ores are mined on a **considerable** scale for export and several new gold and copper mines have been opened, and the amount of the various mining industries is **increasing** very notably. Mica mining began several years ago in the mountain region and has grown to a considerable importance, much the larger part of this material found in commerce being produced here.

FOREST TREES IN LARGE VARIETY.

Native Forests. The whole area of the state was **originally** forest-covered and about two-thirds of it is yet in **primitive** condition. The great variety of soils together with the wide range of climate, gives rise to a remarkably rich and varied flora. The **important** trees are the oak, pine, maple, hickory, magnolia and birch. Among the trees are many **valuable** and popular cabinet woods, such as walnut, holly, cherry, ash, cedar, birds-eye maple, sycamore, etc. These forests are rapidly increasing in value as those of the northern states disappear and as the demand for timber increases.

THE LAND OF THE SKY.

One of the most beautiful regions on the earth is Western North Carolina. In this delightful portion of the State are numerous elevated plateaus, nestling among mountains and running streams. On one of these charming uplands, 2,000 feet in elevation above sea level, with the Blue Ridge Mountains in the distance, are Mount Mitchell, Mount Guyot and Clingman's Dome. There are so many of these mountain elevations, which cause the beholder to look up, this region has been fittingly named the "Land of the Sky."

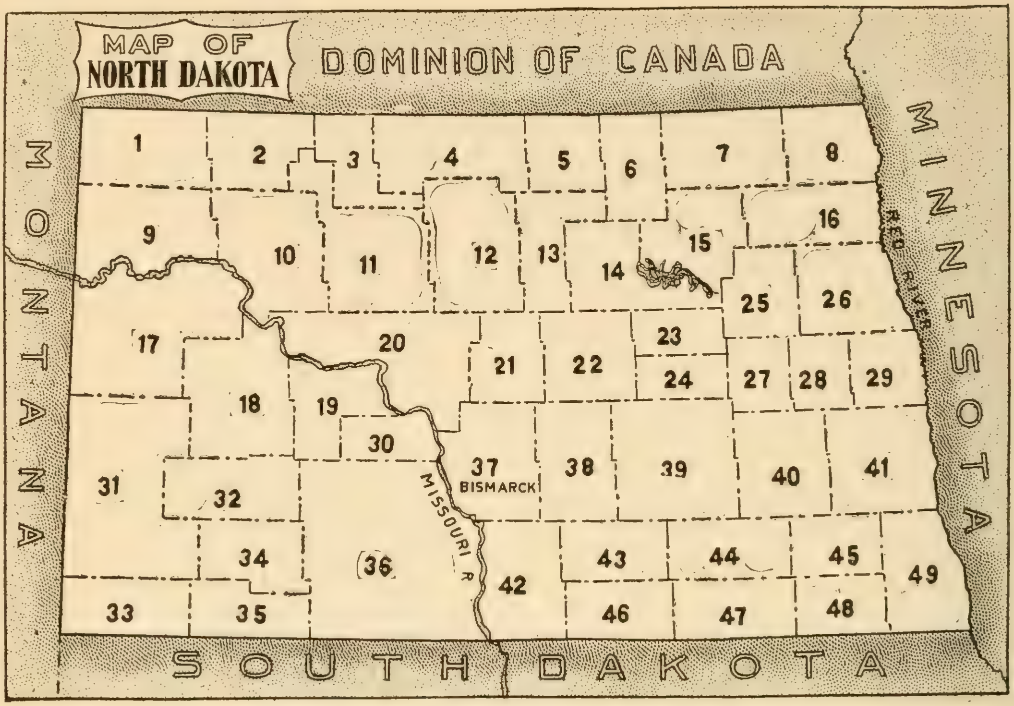
It is here on one of these levels amid nature's diversified scenes, with mountain, plain, streams and beautiful southern trees, where the charming City of Asheville, North Carolina, is located. This is a town of 20,000 people, which has thrice that number in the tourist season of the year.

It was natural that George W. Vanderbilt, who had traveled extensively and knew the beautiful regions of the earth, should buy 100,000 acres a short distance from Asheville, and here, with unlimited wealth at command, he has laid out and developed "Biltmore," one of the most notable and attractive country estates in the world. With its costly residences, surrounded by broad lawns and luxuriant gardens, with its roads rivaling the most perfect boulevards, it represents an investment of over $6,000,000.

"Asheville has acquired by reason of its wonderful climate and from the reputation of its superb hotels, a popularity and a progressive spirit quite beyond the usual limitations of towns of much larger size. Its broad asphalted streets, plentifully shaded, its substantial public buildings and luxurious homes mark it a place of wonderful endowment and public spirit.

STATE AND THE 49 COUNTIES OF NORTH DAKOTA

With Their Boundaries



LOCATION AND 1910 POPULATION OF NORTH DAKOTA COUNTIES

Loca.	*County*	*Pop.*
1	Divide	
2	Burke	
3	Renville	
4	Bottineau	17,295
5	Rolette	9,558
6	Towner	8,963
7	Cavalier	15,659
8	Pembina	14,749
9	Williams	20,249
10	Mountrail	8,491
11	Ward	42,185
12	McHenry	17,627
13	Pierce	9,740
14	Benson	12,681
15	Ramsey	15,199
16	Walsh	19,491
17	McKenzie	5,720
18	Dunn	5,302
19	Mercer	4,665
20	McLean	14,598
21	Sheridan	8,103
22	Wells	11,814
23	Eddy	4,800
24	Foster	5,313
25	Nelson	10,140
26	Grand Forks	27,888
27	Griggs	6,274
28	Steele	7,616
29	Traill	12,545
30	Oliver	3,577
31	Billings	10,186
32	Stark	12,504
33	Bowman	4,668
34	Hettinger	6,557
35	Adams	5,407
36	Morton	25,289
37	Burleigh	13,087
38	Kidder	5,962
39	Stutsman	18,189
40	Barnes	18,066
41	Cass	33,935
42	Emmons	9,796
43	Logan	6,168
44	Lamoure	10,724
45	Ransom	10,345
46	McIntosh	7,251
47	Dickey	9,839
48	Sargent	9,202
49	Richland	19,659
	Total	577,056

Cities and Villages of North Dakota with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
Antler	4	342
Abercrombie	49	299
Adams	16	338
Almont	36	401
Anamoose	12	669
Aneta	25	654
Ardoch	16	271
*Ashley	46	682
B		
Balfour	12	399
Bantry	12	201
Barlow	24	252
Barton	13	202
Bathgate	8	328
Beaulieu	7	1,003
Belfield	32	401
Berthold	11	454
Berwick	12	251
Binford	27	275
Birdsell	36	444
*Bismarck (capital)	37	5,443
*Bottineau	4	1,331
*Bowbells	2	651
Bowdon	22	302
*Bowman	33	481
Brinsmade	14	203
Buffalo	41	241
Burlington	11	201
Buxton	29	401
C		
Caledonia	29	251
Calvin	7	301
*Cando	6	1,332
Carpio	11	257
*Carrington	24	1,217
Casselton	41	1,553
Cathay	22	225
Cavalier	8	652
Christine	49	202
Churchs Ferry	15	457
Clifford	29	201
Cogswell	48	418
Columbus	2	225
*Cooperstown	27	1,019
Courtenay	39	539
Crary	15	279

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of North Dakota with 1910 Populations

Towns	*Loca.*	*Pop.*
*Crosby	1	206
Crystal	8	376
D		
Davenport	41	226
Dawson	38	201
Dazey	40	265
Denhoff	21	318
Deslacs	11	251
*Devils Lake	15	5,157
*Dickinson	32	3,679
Dogden	20	321
Donnybrook	11	297
Doyon	15	202
Drake	12	348
Drayton	8	587
Dunseith	5	776
E		
Edgeley	44	749
Edinburg	16	301
Edmore	15	344
Egeland	6	266
*Ellendale	47	1,389
Emerado	26	225
Enderlin	45	1,541
Ernest	8	353
F		
Fairmount	49	387
*Fargo	41	14,331
*Fessenden	22	713
Fingal	40	351
Finley	28	516
Flaxton	2	301
Forbes	47	221
Forest River	16	233
*Forman	48	352
Fort Yates	36	351
Fullerton	47	206
G		
Gackle	43	301
Galesburg	29	225
Gardner	41	203
Garrison	20	406
Geneseo	48	201
Gilby	26	301
Gladstone	32	202
Glasston	8	401
Glenburn	3	268
Glen Ullin	36	921
Goodrich	21	411
Graceville	33	2,229
*Grand Forks	26	12,478
Grandin	41	302
Granville	12	455
Gwinner	48	301
H		
Hamilton	8	213
Hampden	15	235
Hankinson	49	1,503
Hannaford	27	341
Hannah	7	501
Hansboro	6	302
Harvey	22	1,443
Hatton	29	666
Havana	48	221
Hebron	36	597
*Hillsboro	29	1,239
Hope	28	909
Hunter	41	365
I		
Inkster	26	353
J		
*Jamestown	39	4,358
K		
Kathryn	40	251
Kenmare	11	1,437
Kensal	39	456
Kief	12	221
Kindred	41	302
Knox	14	331
Kulm	44	645
L		
*Lakota	25	1,023
*La Moure	44	929
*Langdon	7	1,214
Lankin	16	341
Lansford	4	456
Larimore	26	1,224
Leeds	14	682
Lidgerwood	49	1,019
*Linton	42	614
*Lisbon	45	1,758
Litchville	40	484
M		
*McClusky	21	517
McHenry	24	398
McVille	25	311
Maddock	14	374
*Mandan	36	3,873
Manvel	26	201
Mapleton	41	207
Marmarth	31	791
Martin	21	251
Max	20	285
Maxbass	4	241
Mayville	29	1,072
Medina	39	342
Mekinock	26	201
Michigan	25	449
Milnor	48	641
Milton	7	411
*Minnewaukan	14	512
*Minot	11	6,188
Minto	16	701
*Mohall	3	493
Monango	47	338
Munich	7	225
N		
*Napoleon	43	301
Neche	8	528
*New Rockford	23	802
New Salem	36	621
Nome	40	218
North Minot	11	432
Northwood	26	762
O		
Oakes	47	1,499
Oberon	14	302
Olga	7	201
Omemee	4	332
Osnabrock	7	253
P		
Page	41	479
Park River	16	1,011
*Pembina	8	719
Perth	6	221
Petersburg	25	353
Pingree	39	251
Pisek	16	312
Plaza	10	224
Portal	2	491
Portland	29	561
R		
Ray	9	436
Reynolds	26	412
Richardton	32	647
Rolette	5	408
*Rolla	5	1,587
*Rugby	13	1,631
Rutland	48	224
Ryder	11	338
S		
St. John	5	424
St. Thomas	8	513
Sanborn	40	391
Sarles	7	346
Sawyer	11	327
Scranton	33	214
Sharon	28	304
Sheldon	45	358
Sherwood	3	328
Sheyenne	23	451
Souris	4	267
Spiritwood	39	207
*Stanley	10	818
Starkweather	15	246
*Steele	38	501
Strasburg	42	273
Sykeston	22	276
T		
Thompson	26	351
Tioga	9	203
Tolley	3	251
Tolna	25	209
Tower City	41	452
*Towner	12	691
Turtle Lake	20	201
U		
Underwood	20	422
Upham	12	296
V		
*Valley City	40	4,606
Velva	12	837
Verona	44	235
W		
*Wahpeton	49	2,467
Walcott	49	251
Wales	7	225
Walhalla	8	592
Walum	27	201
Warwick	14	201
*Washburn	20	657
Westhope	4	592
Wheatland	41	501
White Earth	10	264
*Williston	9	3,124
Willow City	4	623
Wilton	20	437
Wimbledon	40	571
Wishek	46	432
Wyndmere	49	439
Y		
York	44	431

NORTH DAKOTA

Facts About the Celebrated Red River of the North, Devil's Lake, the Many Mines of Lignite Coal and Other Features of Interest.

Up in the northern part of the United States, directly south of the Canadian Dominion, and extending from Minnesota on the East to Montana on the West, covering a distance of **360** miles, lies **North Dakota.**

AN INLAND SEA.

About midway in the State, from east to west, is a grassy upland which is **supposed** to have been the western shore line in some prehistoric time when the whole region hereabouts was covered with an inland sea, extending from Oklahoma up to Lake Winnipeg. In the very bottom of this immense lake was the **Red River** of the North and Lake Winnipeg.

Through upheavals in the centuries of the past this lake was **drained,** leaving a few water basins remaining, like **Devil's Lake** in North Dakota and Lake Winnipeg in Canada, and a few streams flowing very slowly, among them being the **Red River** of the North and its tributaries.

FERTILE SOIL OF THE RED RIVER REGION.

Naturally with the draining of this great inland lake there was left in the bottom an exceedingly fertile soil which is a characteristic of the Eastern Dakota lands.

The valley of the Red River of the North has a **wide reputation** because of its great crops of wheat. This valley, including the part located in Minnesota, comprises a tract **250 miles** long with a width of from 50 to 100 miles, and is almost a level plain, with a descent of from one to two feet to the mile, sloping to the north, in which direction the river runs.

The first permanent white settlement in the territory occupied by the present State was made in 1780 near Pembina, which locality at the present time, is a short distance south of the Canadian line on the Red River.

EARLY SETTLEMENT OF NORTH DAKOTA.

In 1810 Lord Selkirk built a fort near Pembina, supposing the region to be on British soil. The Pembina settlement grew in population and, isolated from all outside civilization, was an honest rural community with **distinctive peculiarities** in dress and manners.

When St. Paul, Minnesota, was established in 1841, and goods were brought **up the Mississippi River** for wholesale distribution to settlers in the northwest, it was one of the great curiosities to see the immense two-wheeled wooden ox-carts, which came down from Pembina with the inhabitants of the region, who exchanged their furs and wheat for modern products to take back into the Pembina region.

Physical Advantages of North Dakota

From N. Dak. Bulletin.

The geographical location of North Dakota is favorable—to the **north** are the great Canadian Provinces of Saskatchewan and Manitoba—the northern state line of North Dakota forming part of the International Boundary Line between ourselves and our good friend and neighbor, Canada. Directly south of North Dakota is her sister state—South Dakota—like **most sisters** their characters are **entirely different.** West—is Montana, the first of the Northwestern Rocky Mountain States. Minnesota (Land of the sky-blue-water) lies due east. Surrounded by large prosperous commonwealths, North Dakota's condition and characteristics are not on all fours with her neighbors. North Dakota possesses **many strong, well defined** differences and advantages.

NORTH DAKOTA'S SIZE.

North Dakota is the **fourteenth state in size,—** the area in square miles is 70,795—including 600 square miles of water surface. In acres the land area amounts to 44,736,477—if divided into farms of 160 acres **this big state would contain 279,602 farms.** North Dakota is about 25 per cent larger than Illinois (56,650 square miles),—Iowa (56,025 square miles)—and nearly **twice as large** as Indiana (36,350 square miles). Michigan contains only 58,195 and Little **Old New York,**—once thought to be a huge commonwealth,—contains only 49,170 square miles. Compare this to North Dakota's 70,795 square miles. North Dakota is rectangular in shape and is 360 miles wide (east and west), 210 miles long (north and south). These figures give some idea of the **tremendous stretch of the wide prairies** of this vigorous young state.

THE GENERAL PHYSICAL FEATURES OF NORTH DAKOTA.

North Dakota has **no mountains,** few hills, no forests and **little broken land.** The larger part of the surface of this big State is either flat or slightly rolling prairie. Hundreds of little lakes dot the country east of the Missouri River. Devils Lake, near the city of that name, is a very large lake. Several other **good sized lakes** are near by. Turtle Mountains are the highest hills and are about 400 feet high. Other **"Mountains"** are as much as 300 feet high.

There are **four great divisions** of land in North Dakota. First—the land east of the outer rim of the plateaus of the Missouri River. **Second**—the land south and west of the Missouri River's plateaus. Third—the rough butte broken portion south and west of the Missouri River. Fourth—the renowned and fertile Red River Valley.

LOCATION OF THE FAMOUS RED RIVER VALLEY.

Starting at the eastern edge of the State next to Minnesota, you find the Red River and the **broad, flat** Red River Valley—which has an altitude of approximately 1,000 feet and averages 50 miles in width. Soil authorities say the soil in the Red River Valley is unexcelled in fertility—in **the world.** The Red River flows northward and forms the North Dakota-Minnesota state line.

THE ROLLING PRAIRIES WEST OF THE RED RIVER VALLEY.

The valley of the Red River is separated from the rest of the State by a series of high ridges, named the Manitoba Escarpment. West of these ridges **the prairie** is slightly rolling and slowly rises (about two and one-half feet a mile) until the edge of the Plateaus of the Missouri River are reached. Here the land rises about **300 feet in 40 miles.** Some of the land on this plateau is badly broken, but the greater part rises in long, rolling swells, studded with little hills, ridges and coulees. Much good **bottom land** is located on the flats of the Missouri, the Little Missouri and the Yellowstone Rivers. On the east side of the Missouri River's plateaus and north of the Missouri River you find flat and slightly rolling prairies.

WHY NORTH DAKOTA'S SOIL MAKES FARMERS RICH.

That worn out phrase "rich black soil" **no longer** means anything. Pick up any newspaper or farm journal and every farm offered for sale from Maine to California has a "rich black soil." What the man who makes his living direct from the land **needs to know** is whether it will produce paying **crops** and whether the climate above the land will allow him to live in health and comfort. Given these two vital conditions, he **don't care a snap** whether the color of the soil is gray, black or brown. What will it produce and **why?**—is what he wants to know. A short history of how Nature formed and favored North Dakota will quickly show why the land is fertile and pays good **cash dividends.** The color of the soil in this state happens to be black—whether it is rich or not you can best judge by the evidence of actual farmers given herein.

HOW MOUNTAINS OF ICE MADE THE LAND LEVEL.

Nature once put North Dakota in **cold storage.** Then by using a huge ice plow and tremendous pressure the high hills of old North Dakota were planed away. The broken valleys were filled up. The flattened prairies of today are the result. Centuries ago, glaciers, miles high, and larger than those now in Glacier Park, Montana, or in Alaska, formed near the Arctic Circle. This was in the **Ice Age.** As it grew colder, more ice formed and hundreds of glaciers, forming a solid ice sheet started to move and grind their way to North Dakota. Near far off Labrador and the Arctic Circle were great ledges of limestone, cliffs of granite and large quartz deposits. These were **picked up** and dragged along. By the time this ice sheet reached North Dakota it was **miles high.** The pressure on the surface of the soil was hundreds of tons to the square yard. Soft rock, like limestone, was **ground to powder** by the pressure and the friction. The soil was harrowed and ground to powder and millions of tons of this pulverized limestone and other rock were mixed with it.

WHERE THE ICE SHEET FORMED.

The ice sheet reached a high ridge of land just this side (east) of the Missouri River. Before this ridge could be ground down—glaciers only move from a few inches to one or two feet a day—the Ice Age ended. It **became warmer.** The ice sheet **melted.** Large lakes were formed. Old river beds, like the Missouri's were overflooded. Gradually the lakes were drained by old and new rivers. Where these lakes had been the lake bottom was, of course, almost as **flat as a floor.** The valley of the **Red River** and the valley of the **Mouse River** are the two most striking examples, in North Dakota, of ancient **lake bottoms.** Elk River Valley in Traill, Steele and Grand Forks counties, the larger parts of Sargent and Dickey counties, are also old lake bottoms.

Don't overlook the important fact that the Ice Sheet stopped **in North Dakota** because when the ice melted all the soil it was carrying was dropped. This is called by scientists, "glacial drift," and makes fertile soil. It is fertile because it has been **ground as fine** as wheat (sometimes as fine as flour) and well mixed with limestone and granite, etc. (limestone soils grow the most wheat), that is, it is not only mixed with mineral fertilizers, but is in good mechanical condition. Then the **soil is deep.** The Red River Valley was covered to an average depth of **300 feet.**

This left four different surfaces in the State:

First,—**level prairies,** covered by the ice sheet, which became ancient lake bottoms when the ice melted.

Second,—**rolling prairies,** dotted with numberless little lakes, and a few low, rounded hills.

Third,—the **plateau region** west of the Missouri River, never covered by ice, owing its fertility to other sources, well drained by rivers, with no lakes and many moderately high, flat-topped hills.

Fourth,—the **wrongly named** Bad Lands. As the Bad Lands are outside the Great Northern counties of North Dakota, space will not be taken to discuss them.

There are **no mountains** in North Dakota. There are no forests. The high hills can be counted on your fingers.

The greater part of North Dakota is flat or rolling prairie. The land is **ready** for the plow. No **stones** hamper the farmer. No **stumps** cumber the ground. The soil is covered by a heavy growth of native grass on which that wild native beef, the buffalo—grew fat.

North Dakota Opportunities in Agriculture and Varied Enterprises

GREAT CHANGES AMONG THE PEOPLE.

As the years have passed the Red River regions of the North have undergone great changes. The Indians have sold their lands and gathered upon reservations; their children are educated in Indian schools, and are up in the **active walks** of life among the whites. The old Pembina fort is no longer a necessity. The original Pembinians are **largely scattered,** and, excepting an occasional **cart,** which is preserved as a curiosity, very little remains of the original odditites of old Pembina.

In the meantime, white settlers have taken up the lands in the Red River Valley, the **first great farms** being divided into smaller tracts, all of the new settlers being **highly** prosperous.

The State as a whole is an immense stretch of level and rolling prairie land and river valleys, with numerous small lakes. Even the Red River Valley is not yet thickly settled and land **throughout the State** can be had from $5 to $30 per acre.

By application to the Secretary of State of North Dakota the remainder of the government land which is yet left in the State can be known. That which now remains unappropriated is agricultural and grazing land.

THICKNESS OF SOIL.

The **soil of Central Dakota** is a black loam, varying from two to **three feet** in thickness; it has a clay subsoil which **retains** the moisture of the winter and early spring in reserve for **summer** use, and its fertility throughout the entire State is remarkable. The Red River Valley has ample rainfall which gradually decreases toward the west, until the elevations in the middle of the State are reached, beyond which **irrigation** is required. From the Turtle and Pembina Mountains along the Canadian boundary line towards the south, the descent is gradual to Devils Lake, in Ramsey County.

THE CELEBRATED DEVILS LAKE.

This lake, a picturesque sheet of water with no visible means of outlet, has an elevation of 1,434 feet above sea level. Its length is nearly **50 miles,** and its greatest width is from **12** to **15** miles. On its north shore is located the **Dakota Chautauqua** assembly grounds and on the south side of the lake is an Indian industrial school.

While North Dakota is essentially a prairie State, the native timber covers some **460,000 acres** distributed mostly along the Red River of the North and on the border of various lakes. The government in various ways is rewarding settlers for the planting of trees, and thus large areas have been planted with rapidly growing trees, the effect of which will be to **attract rainfall** in the western part of the state and break the blizzard winds which are **liable** to prevail in the winter months.

As a whole, the climate of this State is remarkably healthy. The atmosphere is dry and stimulating. The sunshine is brilliant and the skies are generaly clear.

The winters are sometimes severe, but as forests are planted and winter protection provided complaints of **blizzards become less.** The **summers and autumns** are peculiarly delightful.

LARGE YIELDS OF SUPERIOR WHEAT.

As may be expected, with a highly fertile soil in a prairie country, the crop yield is immense. The State is noted for its **large yield of A No. 1 wheat,** while in other cereals, flax and all root crops, especially potatoes, the yield is abundant.

Next to agriculture the raising of **live stock** is attaining great importance and the breeding of fine grades of horses and cattle is occupying a great deal of attention. The estimated area of grazing lands is **40,000,000 acres. Naturally,** closely allied to stock raising is the dairy business and this is **coming** considerably fast, as shown in the statistical returns relating to creameries and their products of butter and cheese.

THE STATE WELL WATERED BY RIVERS.

The State is quite well watered by rivers. The Missouri River enters in the northwest part at Fort Buford, runs southeastward and leaves the State in Emmons County, having traversed the region for **300 miles** and been fed **by numerous** rivers in the State, among them being the Little Missouri, Knife, Heart and Cannon Ball Rivers.

The entire country next the Missouri River is underlaid with **lignite coal.** In fact, a large share of the entire area of the State shows the outcropping of lignite, which is **excellent** for heating and gas making. Many farmers have this coal on their farms and some **fifty coal mines** are opened in the State for commercial purposes.

GREAT ABUNDANCE OF LIGNITE COAL.

So abundant is this fuel as to cause the United States Government to investigate and consider the use of lignite in the **steady production** of power for **pumping and irrigating** the arid lands in the western part of the State.

A **singular feature** of Southwestern North Dakota are the so-called "Bad Lands," a region of the country following the Little Missouri River, covering an area of about **one hundred miles** in length by **twenty-five in width.** This land, once a level plain, has been **cut** by the branches of the Little Missouri, and the action of **fire** from burning lignite coal seams, forming a labyrinth of gullies, buttes and figures of all sorts in which a person traveling among them may easily get lost.

RAILROAD FACILITIES.

Two great trunk lines of railway cross the State from east to west, the Great Northern and the Northern Pacific. East of Medora, where the Northern Pacific crosses the Missouri River, the buttes are of blood red color. In places the petrified stumps and trunks of trees are brought to the surface and at a number of places coal veins are still burning beneath the surface of the ground, sending forth smoke through the fissures in the earth. This is especially a **grazing region.** The whole country is covered with grass and is regarded as one of the **best cattle districts** in the West. A special merit of the "Bad Lands," according to one writer in describing the country, is that stock can be **sheltered** in the ravines during the winter.

For a highly fertile soil, abundant crops, rapidly bringing wealth to farmers, the land-seeker should not **forget** to carefully investigate the opportunities which offer in North Dakota.

CONDENSED IMPORTANT FACTS RELATING TO NORTH DAKOTA.

Altitude. Highest in the State at Summit, Billings County, near the Montana border.

Climate. Generally healthy, clear skies, brilliant sunshine; winters cold but dry. Summer days, though warm, are followed by cold nights. The snowfall is comparatively light and the only disagreeable winds (blizzards) are those from the Northwest. Average annual temperature, at Bismarck, is 39.4 degrees above. The extremes are 106, highest, and 44 below zero, the lowest. Average January temperature, 4 above. July, 67. Average annual rainfall (rain and melted snow), 18.4 inches.

Dimensions. Length of State, north to south, 210 miles; width, east to west, 360 miles. Area, 70,795 square miles.

History. First permanent settlement made by French Canadians at Pembina, Pembina County, in 1780. The State formed a part of the Louisiana Purchase of 1803. Exploring expedition of Lewis and Clark spent the winter of 1804-05 among the Mandan Indians, near the present site of Bismarck on the Missouri River. Lord Selkirk erected a fort at Pembina in 1812. Dakota Territory, including parts of Wyoming and Montana, organized in 1861. Area reduced in 1868. Admitted to Union in 1889.

GROWING SEASON IN NORTH DAKOTA.

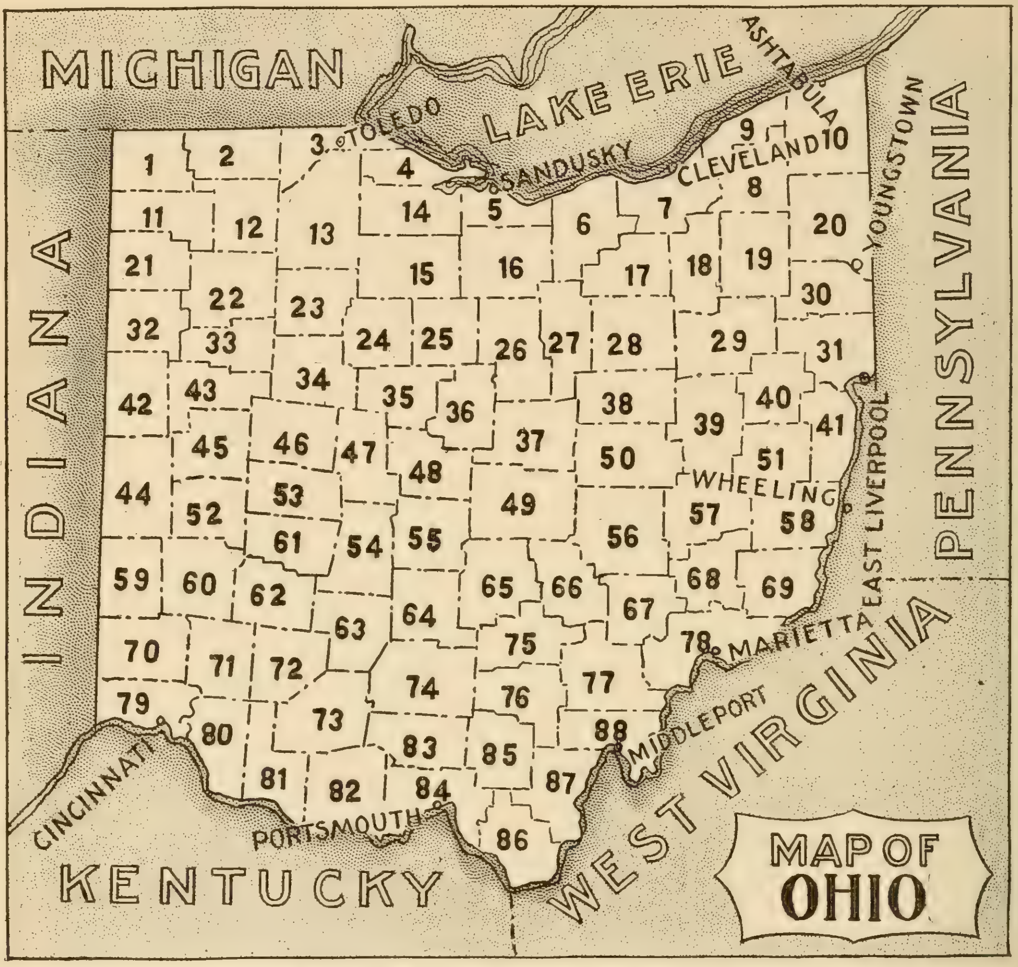
Average number of days required for different crops to mature.

Wheat	95 to 106	Millet	81 to 112
Oats	88 to 102	Speltz	91 to 92
Barley	82 to 94	Corn	about 100
Flax	83 to 95		

Figures taken from Government Agricultural Experiment Station, Bulletin No. 52, at Fargo.

STATE AND THE 88 COUNTIES OF OHIO

With Their Boundaries



LOCATION AND 1910 POPULATIONS OF OHIO COUNTIES.

Loca.	*County*	*Pop.*
1	Williams	25,198
2	Fulton	23,914
3	*Lucas	192,728
4	Ottawa	22,360
5	Erie	38,327
6	Lorain	76,037
7	Cuyahoga	637,425
8	Geauga	14,670
9	Lake	22,927
10	Ashtabula	59,547
11	Defiance	24,498
12	Henry	25,119
13	Wood	46,330
14	Sandusky	35,171
15	Seneca	42,663
16	Huron	34,206
17	Medina	23,598
18	Summit	108,253
19	Portage	30,834
20	Trumbull	52,766
21	Paulding	22,730
22	Putnam	29,972
23	Hancock	37,850
24	Wyandot	20,760
25	Crawford	34,036
26	Richland	47,667
27	Ashland	22,975
28	Wayne	38,058
29	Stark	122,987
30	Mahoning	116,151
31	Columbiana	76,619
32	Van Wert	29,119
33	Allen	56,580
34	Hardin	30,407
35	Marion	33,971
36	*Morrow	......
37	Knox	30,181
38	Holmes	17,909
39	Tuscarawas	57,035
40	Carroll	15,761
41	Jefferson	65,423
42	Mercer	25,536
43	Auglaize	31,246
44	Darke	42,933
45	Shelby	24,663
46	Logan	30,084
47	Union	21,871
48	Delaware	27,182
49	Licking	55,590
50	Coshocton	30,121
51	Harrison	19,076
52	Miami	45,047
53	Champaign	26,351
54	Madison	19,902
55	Franklin	221,567
56	Muskingum	57,488
57	Guernsey	42,716
58	Belmont	76,856
59	Preble	23,834
60	Montgomery	163,763
61	Clark	66,435
62	Greene	29,733
63	Fayette	21,744
64	Pickaway	26,158
65	Fairfield	39,201
66	Perry	35,396
67	Morgan	16,097
68	Noble	18,601
69	Monroe	24,244
70	Butler	70,271
71	Warren	24,297
72	Clinton	23,630
73	Highland	28,711
74	Ross	40,069
75	Hocking	23,650
76	Vinton	13,096
77	Athens	47,798
78	Washington	45,422
79	Hamilton	460,732
80	Clermont	29,551
81	Brown	24,832
82	Adams	24,755
83	Pike	15,723
84	Scioto	48,466
85	Jackson	30,791
86	Lawrence	39,488
87	Gallia	25,745
88	Meigs	25,594
Total		4,767,121

Ohio Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
Aberdeen	81	568
Academia	37	300
Ada	34	2,465
Addison	87	200
Addyston	79	1,543
Adelphi	74	407
Adena	41	570
Agosta	35	304
*Akron	18	69,067
Albany	77	546
Alexandria	49	414
Alger	34	730
Allensville	76	290
Alliance	29	15,083
Alvordton	1	402
Amanda	65	484
Amboy	10	360
Amelia	80	417
Amesville	77	267
Amherst	6	2,106
Amsterdam	41	1,141
Andersonville	74	200
Andover	10	902
Anna	45	460
Annapolis	41	260
Ansonia	44	656
Antiquity	88	309
Antwerp	21	1,187
Apple Creek	28	466
Arcadia	23	380
Arcanum	44	1,361
Archbold	2	1,082
Arion	84	200
Arlington	23	798
Arlington Heights	79	468
*Ashland	27	6,795
Ashley	48	706
Ashtabula	10	18,266
Ashville	64	972
Athalia	86	226
*Athens	77	5,463
Attica	15	719
Atwater	19	360
Augusta	40	320
Augusta Station	40	250
Aultman	29	609
Aurora Station	19	660
Austinburg	10	392
Austintown	30	260
Ava	68	506
Avon Lake	6	1,098
Axline	56	450
B		
Bachman	60	200
Bainbridge	74	883
Bairdstown	13	240
Bakersville	50	290
Baltic	39	377
Baltimore	65	551
Bantam	80	290
Barberton	18	9,410
Barnesville	58	4,233
Barnhill	39	506
Barryville	29	290
Bartlett	78	208
Barton	58	800
Bascom	15	375
Basil	65	504
*Batavia	80	1,034
Batemantown	37	292
Batesville	68	282
Bay Junction	5	450
Bays	13	220
Beach City	29	671
Beach Park	6	290
Beallsville	69	564
Beaver	83	286
Beaverdam	33	455
Bedford	7	1,783
Bell	73	266
Bellaire	58	12,946
Bellbrook	62	283
Belle Center	46	889
*Bellefontaine	46	8,238
Belle Valley	68	689
Bellevue	16	5,209
Bellville	26	1,056
Belmont	58	572
Belmore	22	298
Beloit	30	510
Belpre	78	1,249
Benton	38	362
Benton Ridge	23	352
Bentonville	82	250
Berea	7	2,609
Bergholz	41	1,011
Berlin	38	275
Berlin Center	30	202
Berlin Cross Roads	85	330
Berlin Heights	5	554
Bertha	84	360
Bethel	80	1,201
Bethesda	58	1,026
Bettsville	15	486
Beverly	78	720
Bexley	55	682
Bidwell	87	590
Bigprairie	38	202
Bigsprings	46	200
Birmingham	5	392
Bladensburg	37	308
Blanchester	72	1,813
Bloomdale	13	602
Bloomingburg	63	610
Bloomington	72	212
Bloomville	15	754
Bluestone	7	250
Bluffton	33	1,953
Bolivar	39	567
Boston	18	289
Botkins	45	579
Bowerston	51	514
Bowersville	62	297
*Bowling Green	13	5,222
Braceville	20	200
Bradford	52	1,844
Bradner	13	890
Bradrick	86	250
Brandon	37	292
Brandt	52	240
Brecksville	7	1,266
Bremen	65	925
Brewster	29	200
Briceton	21	296
Bridgeport	58	3,974
Briggsdale	55	262
Brilliant	41	742
Brimfield	19	506
Brinkhaven	37	341
Bristolville	20	1,220
Broadway	47	225
Broadwell	77	362
Brookfield	20	990
Brookville	60	1,187
Broughton	21	226
Brownhelm	6	1,409
Brownhelm Station	6	222
Brownsville	49	350
*Bryan	1	3,641
Buchtel	77	1,180
Buckeye City	37	269
Buckland	43	304
*Bucyrus	25	8,122
Buena Vista	84	330
Burbank	28	351
Burghill	20	460
Burgoon	14	225
Burkettsville	44	236
Burlington	86	390
Burton	8	650
Burton City	28	290
Butler	26	730
Byer	85	260
Byesville	57	3,156
Byhalia	47	250
C		
Cable	53	260
*Cadiz	51	1,971
Cairo	33	450
*Caldwell	68	1,430
Caledonia	35	562
California	79	450
*Cambridge	57	11,327
Camden	59	899
Cameron	69	262
Camp Dennison	79	365
Canal Dover	39	6,621
Canal Fulton	29	978
Canal Lewisville	50	369
Canal Winchester	55	740
Canfield	30	685
Cannelville	56	451
*Canton	29	50,217
Carbondale	77	526
Carbon Hill	75	660
Cardington	36	1,349
Carey	24	2,225
Carlton	87	228
Carroll	65	284
*Carrollton	40	1,730
Carthage	79	3,618
Carthagena	42	299
Cassella	42	266
Casstown	52	265
Castalia	5	520
Catawba	61	234
Catawba Island	4	862
Cecil	21	290
Cedarville	62	1,059
*Celina	42	3,493
Centerburg	37	723
Centerville	60	353
Ceylon	5	390
Chagrin Falls	7	1,931
Chambersburg	60	209
Chandlersville	56	300
*Chardon	8	1,542
Charlestown	19	660
Chatfield	25	270
Chathaim	17	1,260
Chauncey	77	821
Cherry Valley	10	250
Chesapeake	86	541
Cheshire	87	360
Chesterhill	67	410
Chesterville	36	229
Cheviot	79	1,930
Chicago	16	2,950
Chickasaw	42	309
*Chillicothe	74	14,508
Chilo	80	260
Christiansburg	53	380
Churchill	20	290
*Cincinnati	79	363,591
*Circleville	64	6,744
Claridon	8	806
Clarington	69	784
Clark	50	320
Clarksburg	74	558
Clarksfield	16	362
Clarksville	72	425
Clay Center	4	300
*Cleveland	7	560,663
Cleves	79	1,423
Clifton	62	239
Clinton	72	305
Clinton	18	450
Clough Pike	79	222
Clyde	14	2,813
Coalburg	20	390
Coal Grove	86	1,759
Coal Run	78	220
Coalton	85	1,114
Coldwater	42	960
Colebrook	10	1,060
College Corner	70	379
College Hill	79	1,979
Collins	16	360
Collinsville	70	260
Columbiana	31	1,582
COLUMBUS (Capitol)	55	181,511
Columbus Grove	22	1,802
Commercial Point	64	234
Condit	48	213
Conesville	50	490
Conneaut	10	8,319
Conover	52	200
Continental	22	1,074
Convoy	32	741
Coolville	77	370
Copley	18	243
Cornersburg	30	250
Corping	66	1,564
Cortland	20	612
*Coshocton	50	9,603
Covington	52	1,848
Cranenest	69	290
Crescent	58	1,060
Crestline	25	3,807
Creston	28	970
Cridersville	43	526
Crooksville	66	3,028
Croton	49	414
Crown City	87	295
Crystal Spring	29	400
Cumberland	57	609
Curtice	4	400
Custar	13	345
Cuyahoga Falls	18	4,020
Cygnet	13	709
D		
Dalton	28	609
Damascus	31	490
Danville	37	373
Darbyville	64	233
Darrtown	70	300
*Dayton	60	116,577
Deavertown	67	223
Decatur	81	300
Deerfield	19	484
Deer Park	79	360
*Defiance	11	7,327
Degraff	46	1,082
*Delaware	48	9,076
Delhi	79	872
Dellroy	40	373
Delphos	33	5,038
Delta	2	1,689
Dennison	39	4,008
Dent	79	200
Derby	64	290
Derwent	57	562
Deshler	12	1,515
Deunquat	24	269
Dexter	88	278
Dexter City	68	233
Diamond	19	250
Dillonvale	41	1,519
Dixon	32	326
Doanville	77	708
Dodgeville	10	220
Dodsonville	73	225
Dola	34	262
Donnelsville	61	202
Dover	7	309
Doylestown	28	877
Dresden	56	1,549
Drill	58	390
Dublin	55	239
Dunbridge	13	260
Duncan Falls	56	250
Dundas	76	262
Dundee	39	250
Dunglen	41	230
Dunkirk	34	1,109
Dupont	22	334
E		
East Cleveland	7	9,179
East Fairfield	31	360
East Greenville	29	420
East Lewistown	30	230
East Liberty	46	592
East Liverpool	31	20,387
East Orwell	10	704
East Palestine	31	3,537
East Rochester	31	250
East Sparta	29	250
East Springfield	41	300
East Youngstown	30	4,972
*Eaton	59	3,187
Edenton	80	278
Edgerton	1	1,072
Edison	36	387
Edon	1	678
Eifort	86	262
Elba	78	350
Eldorado	59	321
Elida	33	447
Elizabethtown	79	320
Ellsworth	30	666
Elmore	4	937
Elmwood Place	79	3,423
*Elyria	6	14,825
Empire	41	509
Englewood	60	250
Enon	61	249
Epworth	26	200
Etna	49	300
Euclid	7	1,953
Euphemia	59	300
Evansport	11	350
F		
Fairfield	62	292
Fairhaven	59	260

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Ohio Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Fairmount	7	320
Fairport Harbor	9	2,263
Fairview	57	346
Farmer	11	320
Farmersville	60	437
Fayette	2	915
Fayetteville	81	310
Felicity	80	578
Fernbank	79	305
*Findlay	23	14,858
Fivemile	81	260
Flat Rock	15	250
Fletcher	52	376
Floodwood	77	450
Florencedale	41	300
Florida	12	234
Flushing	58	868
Folger	6	420
Footville	10	250
Foraker	34	250
Forest	34	1,285
Forestville	79	282
Fort Jennings	22	336
Fort Recovery	42	1,123
Foster	71	315
Fostoria	15	9,597
Frankfort	74	734
Franklin	71	2,609
Franklin Square	34	362
Franklin Station	50	250
Frazeysburg	56	614
Fredericksburg	28	537
Fredericktown	37	1,021
Freeport	51	624
*Fremont	14	9,939
Fresno	50	290
Frost	77	316
Fulton	36	325
Fultonham	56	825
G		
Gahanna	55	276
Galena	48	513
Galion	25	7,214
*Gallipolis	87	5,560
Galloway	55	250
Gambier	37	537
Garfield	30	250
Garrettsville	19	1,001
Gates Mill	7	360
Gaysport	56	230
Geneva	10	2,496
Genoa	4	817
Georgesville	55	306
*Georgetown	81	1,580
Germano	51	390
Germantown	60	1,778
Gettysburg	44	320
Gibsonburg	14	1,864
Gilboa	22	345
Giliespieville	74	225
Gilmore	39	275
Girard	20	3,736
Glencoe	58	275
Glendale	79	1,741
Glenmont	38	269
Glenmore	32	200
Glenroy	85	890
Glouster	77	2,527
Glynwood	43	206
Gnadenhutten	39	560
Gomer	33	220
Good Hope	63	275
Gore	75	490
Goshen	80	306
Grafton	6	955
Grand Rapids	13	574
Grand River	9	203
Grandview	78	489
Granville	49	1,394
Gratiot	49	250
Gratis	59	410
Green Camp	35	308
Greenfield	73	4,228
Greenford	30	260
Greensburg	20	220
Greenspring	15	833
Greentown	29	350
*Greenville	44	6,237
Greenwich	16	876
Greiton	12	260
Gresham	7	520
Groesbeck	79	350
Grove City	55	837
Groveport	55	643
Grover Hill	21	676

Towns	*Loca.*	*Pop.*
Gustavus	20	250
Gypsum	4	660
H		
Hallsville	74	200
Hamden	76	1,019
Hamersville	81	276
*Hamilton	70	35,279
Hamler	12	596
Hamlet	80	250
Hammansburg	13	260
Hammondsville	41	406
Hampden	8	290
Hanging Rock	86	662
Hanover	49	331
Hanoverton	31	317
Harlem Springs	40	250
Harpster	24	239
Harriettsville	63	250
Harrisburg	55	286
Harrison	79	1,368
Harrisonville	88	360
Harrisville	51	364
Harrod	33	474
Harshman	69	369
Hartford	20	419
Hartsgrove	19	806
Hartshorn	69	350
Hartwell	79	2,823
Harveysburg	71	359
Haskins	13	391
Havana	16	260
Haviland	21	233
Haydenville	75	426
Hayesville	27	490
Hayesville	64	388
Hazelwood	79	469
Hebron	49	677
Helena	14	305
Hemlock	66	452
Hendrysburg	58	450
Hepburn	34	250
Heslop	78	366
Hessville	14	250
Hicksville	11	2,395
Higby	74	395
Higginsport	81	417
Highland	73	272
Hillgrove	44	250
Hilliards	55	370
*Hillsboro	73	4,296
Hinckley	17	275
Hiram	19	422
Hockingport	77	225
Holgate	12	1,025
Holland	3	266
Hollansburg	44	287
Hollister	77	526
Holloway	73	786
Holmesville	33	320
Homer	49	468
Homeworth	31	490
Hopedale	51	391
Houston	45	250
Howard	37	360
Hoytsville	13	404
Hubbard	20	1,699
Hudson	18	1,021
Hume	33	220
Huntington	6	650
Huntsburg	8	866
Huntsville	46	328
Huron Junction	5	1,756
I		
Iberia	36	222
Independence	7	994
Irondale	41	1,136
*Ironton	86	13,147
Ivorydale	79	518
J		
*Jackson	85	5,468
Jackson Center	45	685
Jacksontown	49	328
Jacksonville	77	1,285
Jamestown	62	1,133
Jasper	83	250
*Jefferson	10	1,461
Jeffersonville	63	716
Jenera	23	259
Jeromesville	27	314
Jerry City	13	458
Jersy	49	200
Jerusalem	69	242
Jewett	51	917
Jobs	75	763
Johnson	18	366
Johnsonville	20	622

Towns	*Loca.*	*Pop.*
Johnstown	49	805
Johnsville	60	262
Joyce	39	203
Junction	21	226
Junction City	66	811
Justus	29	360
K		
Kalida	22	770
Kamms	7	275
Kansas	15	320
Kelleys Island	5	1,017
Kenmore	18	1,501
Kennedy	79	200
Kensington	31	400
Kent	19	4,488
*Kenton	34	7,185
Kilbourne	48	202
Kilgore	40	360
Killbuck	38	422
Kimberly	77	266
Kimbolton	57	277
Kings Creek	53	222
Kings Mills	71	750
Kingston	74	813
Kingsville	10	666
Kinsman	20	960
Kinsman Station	20	326
Kipling	57	320
Kipton	6	250
Kirkersville	49	350
Kirtland	9	206
Kunkle	1	450
Kyles Corners	30	225
L		
LaFayette	33	500
Lafayette	54	418
LaGrange	86	464
Lagrange	6	528
Lakeside	4	362
Lakeview	46	578
Lakewood	7	15,181
*Lancaster	65	13,093
Lansing	58	366
Larue	35	772
Latty	21	339
Laura	52	302
Laurel	80	226
Laurelville	75	457
Leavittsburg	20	392
*Lebanon	71	2,698
Leesburg	73	828
Leesville	25	200
Leesville Cross Roads	25	290
Leetonia	31	2,665
Leipsic	22	1,173
Lemoyne	13	363
Letart Falls	87	566
Levanna	81	362
Lewisburg	59	672
Lewis Center	48	330
Lewistown	46	290
Lewisville	69	291
Lexington	26	654
Liberty	60	225
Liberty Center	12	647
Lightsville	44	366
Lilly Chapel	54	426
*Lima	33	30,508
Limestone	4	260
Linden Heights	55	991
Lindenville	10	808
Lindsey	14	501
Linndale	7	512
*Lisbon	31	3,034
Litchfield	17	220
Little Hocking	78	350
Lockbourne	55	307
Lockland	79	3,439
Lockwood	20	362
Lodi	17	1,015
*Logan	75	4,850
*London	54	3,530
Longstreth	75	500
Lorain	6	28,883
Loraine	45	439
Lore City	57	609
Londonville	27	1,804
Louisville	29	1,678
Loveland	80	1,421
Lovell	24	569
Lowell	78	381
Lowellville	30	1,506
Lower Salem	78	287
Lucas	26	272
Lucasburg	57	426
Lucasville	84	256

Towns	*Loca.*	*Pop.*
Luckey	13	520
Ludlow Falls	52	360
Luhrig	77	422
Lykens	25	260
Lynchburg	73	923
Lyons	2	408
M		
*McArthur	76	1,107
McClainville	58	200
McClure	12	547
McComb	23	1,088
*McConnelsville	67	1,831
McCuneville	66	362
McCutchenville	24	350
McDermot	84	228
McGuffey	34	491
Macedonia	18	562
Macksburg	78	454
Madeira	79	550
Madison	9	863
Madisonville	79	5,193
Magnolia	29	556
Maholm	66	290
Maineville	71	245
Malinta	12	345
Mallet Creek	17	350
Malta	67	971
Malvern	40	753
Manchester	82	1,966
*Mansfield	26	20,768
Mantua	19	721
Marblehead	4	1,172
Marengo	36	283
Maria Stein	42	560
*Marietta	78	12,923
*Marion	35	18,232
Mark Center	11	306
Marlboro	29	251
Marseilles	24	225
Marshallville	28	294
Martin	4	406
Martinsburg	37	252
Martins Ferry	58	9,133
Martinsville	72	354
*Marysville	47	3,576
Mason	71	737
Massillon	29	13,879
Maumee	3	2,037
Mayfield	7	560
Maynard	58	420
Mecca	20	250
Mechanicsburg	53	1,446
Mechanicstown	40	250
*Medina	17	2,734
Medway	61	250
Melbern	1	360
Melmore	15	250
Melrose	21	317
Mendon	42	621
Mentor	9	732
Mercer	42	320
Mermill	13	360
Mesopotamia	20	820
Metamora	2	475
Miami	79	400
Miamisburg	60	4,271
Middle Bass	4	200
Middlebranch	29	260
Middleburg	46	288
Middlefield	8	610
Middle Point	32	607
Middleport	88	3,194
Middletown	70	13,152
Midland	72	327
Midvale	39	675
Midway	11	483
Milan	5	696
Milford	80	1,321
Milford Center	47	685
Millbury	13	276
Miller	86	350
Miller City	22	218
*Millersburg	38	2,020
Millersport	65	259
Millerstown	53	279
Millersville	14	260
Milnersville	57	2,066
Milton Center	13	350
Mineral	77	312
Mineral City	39	1,032
Mineral Ridge	20	759
Minersville	88	980
Minerva	29	1,396
Mingo	53	200
Mingo Junction	41	4,049
Minster	43	1,585
Misco	66	290
Mogadore	18	438
Momeneetown	3	298

Ohio Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Monclova	3	250
Monday	75	420
Monfort	79	526
Monroe	70	255
Monroe Center	10	262
Monroeville	16	1,152
Montezuma	42	228
Montgomery	79	797
Montpelier	1	2,759
Montville	8	660
Morral	35	334
Morristown	58	274
Morrow	71	382
Moscow	80	327
Mount Airy	79	497
Mount Blanchard	23	451
Mount Carmel	80	206
Mount Cory	23	290
Mount Eaton	28	208
Mount Ephriam	68	225
*Mount Gilead	36	1,678
Mount Healthy	79	1,799
Mount Liberty	37	200
Mount Orab	81	539
Mount Pleasant	41	701
Mount Sterling	54	1,071
*Mount Vernon	37	9,087
Mount Victory	34	740
Mount Washington	79	574
Mownystown	73	326
Moxahala	66	466
Munroe Falls	18	326
Munson	17	200
Murray	75	1,386
N		
*Napoleon	12	4,907
Nashville	38	269
Navarre	29	1,357
Negley	31	430
Nelsonville	77	6,082
Nevada	24	889
Neville	80	290
New Albany	55	215
New Antioch	72	226
*Newark	49	25,400
New Athens	51	376
New Bavaria	12	490
New Berlin	29	865
New Boston	84	1,858
New Bremen	43	1,586
New Buffalo	30	200
Newburg	7	5,813
New Burlington	72	320
New Carlisle	61	1,058
New Castle	50	390
New Comerstown	39	2,943
New Concord	56	683
New Dover	47	250
New Garden	31	206
New Hampshire	43	360
New Holland	64	804
New Hope	59	228
New Knoxville	43	487
New Lebanon	60	202
*New Lexington	66	2,559
New London	16	1,557
New Madison	44	628
New Marshfield	77	490
New Martinsburg	63	220
New Matamoras	78	711
New Middletown	30	200
New Moorefield	61	225
New Paris	59	870
New Petersburg	73	220
*New Philadelphia	39	8,542
New Pittsburg	75	330
Newport	78	360
New Richland	46	220
New Richmond	80	1,733
New Riegel	15	268
New Springfield	30	460
New Straitsville	66	2,242
Newton Falls	20	757
Newtown	79	630
New Vienna	72	793
New Washington	25	889
New Waterford	31	509
New Weston	44	258
Niles	20	8,361
Nimisila	18	290
Norman	49	200
North Baltimore	13	2,503
North Bend	79	560
North Bloomfield	20	780
North Bristol	20	290
North Dover	7	230
North Fairfield	16	560
North Georgetown	31	240
North Hampton	61	406
North Industry	29	250
North Jackson	30	406
North Kingsville	10	420
North Lawrence	29	1,150
North Lewisburg	53	793
North Lima	30	360
North Madison	9	220
North Olmstead	7	1,030
North Ridgeville	6	420
*Norwalk	16	7,858
Norwood	79	16,135
Nottingham	7	2,387
Nova	27	250
Novelty	8	290
O		
Oakfield	20	320
Oakharbor	4	1,559
Oak Hill	85	1,148
Oakley	79	1,639
Oakwood	21	496
Oberlin	6	4,365
Ohio City	32	860
Old Fort	15	260
Olive Branch	80	220
Olive Furnace	86	250
Olivesburg	26	280
Olmsted Falls	7	394
Orient	64	250
Orrville	28	3,101
Orwell	10	890
Osborn	62	866
Osgood	44	214
Osnaburg	29	448
Ostrander	48	431
Otsego	56	250
*Ottawa	22	2,182
Ottoville	22	477
Otway	15	234
Owens	35	660
Owensville	80	406
Oxford	70	2,017
P		
*Painesville	9	5,501
Palestine	44	216
Palmyra	19	1,066
Pancoastburg	63	226
Pandora	22	562
Paris	29	360
Parkman	8	3,066
Parma	7	302
Pataskala	49	820
*Paulding	21	2,081
Payne	21	1,207
Peebles	82	921
Pemberton	45	309
Pemberville	13	1,006
Peninsula	18	536
Pennsville	67	250
Perintown	80	270
Perry	9	560
Perrysburg	13	1,913
Perrysville	27	541
Perryton	49	206
Petersburg	30	606
Pettisville	2	302
Pharisburg	47	250
Phillipsburg	60	343
Philo	56	806
Pickerington	65	310
Piedmont	51	275
Pierpont	10	250
Piketon	83	668
Pioneer	1	660
Piqua	52	13,388
Pittsburg	44	340
Plain City	54	1,407
Plainfield	50	215
Plainville	79	250
Pleasant City	57	788
Pleasant Hill	52	571
Pleasant Plain	71	200
Pleasant Ridge	79	255
Pleasantville	65	608
Plymouth	26	1,314
Poland	30	367
Polk	27	250
*Pomeroy	88	4,023
Portage	13	450
*Port Clinton	4	3,007
Port Jefferson	45	233
*Portsmouth	84	23,481
Port Washington	39	421
Port William	72	298
Powell	48	250
Powhatan Point	58	386
Prairie Depot	13	1,358
Proctorville	86	577
Prospect	35	945
Put-in-Bay	4	259
Pyrmont	60	306
Q		
Quaker City	57	746
Quincy	46	594
R		
Raab	3	250
Racine	88	540
Radnor	48	250
Rainsboro	73	215
Randolph	19	560
Range	54	250
Rapids	19	250
Rarden	84	350
*Ravenna	19	5,310
Rawson	23	470
Rayland	41	306
Raymond	47	546
Reading	79	3,988
Redfield	66	250
Reedsville	88	250
Reesville	72	275
Rehoboth	66	200
Reily	70	316
Reinersville	67	200
Rendville	66	623
Republic	15	475
Reynoldsburg	55	431
Rhodes	41	321
Richmond	41	372
Richmond Dale	74	350
Richville	29	262
Richwood	47	1,729
Ridgeville Corners	12	250
Ridgeway	34	427
Ripley	81	1,840
Risingsun	13	599
Rittman	28	326
Rix Mills	56	230
Robertsville	29	250
Robins	57	500
Rockbridge	75	350
Rock Creek	10	455
Rockford	42	1,186
Rockland	78	262
Rockport	7	3,179
Rockyridge	4	349
Rocky River	7	1,861
Rogers	31	258
Rome	10	245
Rootstown	19	220
Roscoe	50	595
Roseville	56	2,113
Rosewood	53	250
Rossburg	44	261
Rossford	13	1,066
Rossmoyne	79	322
Roswell	39	514
Roundhead	34	462
Roxabell	74	250
Royalton	65	226
Rudolph	13	561
Ruraldale	56	300
Rushmore	22	250
Rush Run	41	221
Rushsylvania	46	560
Rushville	65	257
Russellville	81	438
Russia	45	350
Rutland	88	562
S		
Sabina	72	1,514
Saint Barnard	79	5,002
*Saint Clairsville	58	1,398
Saint Henry	42	560
Saint Johns	43	350
Saint Louisville	49	244
Saint Marys	43	5,732
Saint Paris	53	1,261
Salem	31	8,943
Salesville	57	265
Salineville	31	2,403
Sandrun	75	350
*Sandusky	5	19,989
Sandyville	39	275
Santa Fe	43	262
Santoy	66	320
Sarahville	68	281
Sardina	81	534
Sardis	69	375
Savannah	27	262
Saybrook	10	250
Sayler Park	79	877
Scio	51	958
Scioto	84	260
Sciotoville	84	1,202
Scott	32	472
Seaman	82	250
Sebring	30	2,104
Sekitan	79	1,120
Selma	61	206
Senecaville	57	893
Seven Mile	70	340
Seville	17	602
Shadyside	58	2,066
Shalersville	19	222
Shandon	70	350
Shanesville	39	334
Sharon	68	266
Sharonville	79	713
Shawnee	66	2,280
Shelby	26	4,903
Shephard	55	402
Sheridan	86	269
Sherodsville	40	721
Sherrits	86	266
Sherwood	11	566
Shiloh	26	555
Shreve	28	1,016
*Sidney	45	6,607
Silverton	79	459
Smithfield	41	589
Smithville	28	447
Sodom	20	350
Somerdale	39	300
Somerset	66	1,286
Somerton	58	201
Somerville	70	349
Sonora	56	206
South Bloomfield	64	212
South Bloom'gville	75	220
South Charleston	61	1,181
South Euclid	7	360
Southington	20	200
South Lebanon	71	626
South Newbury	8	1,273
South New Lynne	10	326
South Point	86	316
South Salem	74	211
South Solon	54	420
South Vienna	61	270
South Webster	84	499
South Zanesville	56	853
Spencer	17	560
Spencerville	33	1,748
Springboro	71	355
Springdale	79	275
*Springfield	61	46,921
Spring Valley	62	443
Startle	41	412
Steel	58	500
Sterling	28	375
*Steubenville	41	22,391
Stewart	77	339
Stewartsville	58	512
Stillwater	39	225

Ohio Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Stockdale	83	250
Stockport	67	438
Stony Ridge	13	301
Stoutsville	65	420
Strasburg	39	835
Streetsboro	19	200
Strongsville	7	250
Struthers	30	3,370
Stryker	1	1,026
Sugar Creek	39	389
Sugar Grove	65	368
Summerfield	68	489
Summerford	54	200
Sunbury	48	485
Superior	86	260
Swanton	2	1,058
Sweden	10	1,501
Sycamore	24	853
Sycamore Valley	69	977
Sylvania	3	1,002
Syracuse	88	1,256
T		
Tallmadge	18	501
Tarlton	64	302
Taylorsville	73	495
Temperanceville	58	266
Terrace Park	79	448
Thomastown	18	212
Thornville	66	411
Thurston	65	306
*Tiffin	15	11,894
Tippecanoe	51	450
Tippecanoe City	52	2,038
Tiro	25	321
*Toledo	3	168,497
Tontogany	13	314
Toronto	41	4,271
Tracy	39	462
Tremont City	61	450
Trenton	70	564
Trimble	77	711
Trinway	56	360
Trotwood	60	348
Trowbridge	4	200
*Troy	52	6,122
Tuppers Plains	88	220
Tuscarawas	39	471
Twinsburg	18	250
U		
Uhrichsville	39	4,751
Union	60	250
Union City	44	1,595
Union Furnace	75	700
Unionport	41	250
Uniontown	58	210
Unionville	9	390
Unionville Center	47	239
Uniopolis	43	460
Unity	31	332
*Upper Sandusky	24	3,779
*Urbana	53	7,739
Utica	49	1,729
V		
Valley City	17	250
Vanburen	23	303
Vandalia	60	221
Vanlue	23	466
*Van Wert	32	7,157
Vaughnsville	22	320
Venedocia	32	247
Vermillion	5	1,369
Verona	59	250
Versailles	44	1,580
Vickery	14	200
Vienna	20	368
Vigo	74	200
Vincent	78	250
Vinton	87	324
W		
Wabash	51	300
Waco	29	200
Wadsworth	17	3,073
Wainwright	39	350
Wakeman	16	930
Walbridge	13	500
Waldo	35	319
Walkers	31	200
Walnutrun	54	210
*Wapakoneta	43	5,349
Warner	78	200
*Warren	20	11,081
Warrenton	41	300
Warsaw	50	512
Warwick	18	200
Washington	57	366
*Washington C. H.	63	7,277
Washingtonville	31	957
Waterford	78	362
Watertown	78	200
Waterville	3	834
*Wauseon	2	2,650
*Waverly	83	1,883
Waynesburg	29	760
Waynesville	71	705
Webster	44	204
Wellington	6	2,131
Wellston	85	6,875
Wellsville	31	7,769
Welshfield	8	1,026
West Alexandria	59	1,030
West Andover	10	366
Westboro	72	350
West Brooffield	29	336
West Cairo	33	386
West Carrollton	60	1,285
West Chester	70	302
West Clarksfield	16	260
West Dover	7	303
West Elkton	59	230
Westerville	55	1,903
West Farmington	20	446
West Jefferson	54	1,043
West Lafayette	50	840
West Leipsic	22	253
West Liberty	46	1,288
West Manchester	59	445
West Mansfield	46	913
West Mecca	20	260
West Middletown	70	330
West Milton	52	1,205
Westminster	33	200
West Newton	33	236
Weston	13	913
West Park	7	320
West Richfield	18	250
West Salem	28	642
West Sonora	59	209
West Toledo	3	250
*West Union	82	1,080
West Unity	1	980
Westview	7	690
West Wheeling	58	250
Weymouth	17	366
Wharton	24	485
Wheelersburg	84	250
White Cottage	56	362
Whitehouse	3	506
Wick	10	200
Wickliffe	9	530
Wilberforce	62	380
Wilkesville	76	203
Williamsburg	80	948
Williamsfield	10	290
Williamsport	64	536
Willoughby	9	2,072
Wilow	7	225
Willshire	32	653
*Wilmington	72	4,491
Wilmot	29	258
Winchester	82	937
Windham	19	261
Windsor	10	766
Winesburg	38	250
Withamsville	80	382
Woodington	44	336
Woodlawn	79	250
*Woodsfield	69	2,503
Woodstock	53	310
Woodville	14	807
*Wooster	28	6,136
Worthington	55	547
Wren	32	277
Wyoming	79	1,893
X		
*Xenia	62	8,776
Y		
Yellowbud	74	250
Yellow Spgs.	62	1,360
*Youngstown	30	79,066
Z		
Zaleski	76	476
Zanesfield	46	250
*Zanesville	56	28,026
Zoar Station	39	200

OHIO

The Mound Builders—The Struggles of Later Generations to Establish Conditions of Prosperity in the Wealthy State.

Who the **original** land seekers were in all this portion of the continent is unknown. The **earliest evidence** of human intelligence among a people that occupied this land is seen in the earth mounds distributed in great number throughout the State. These people were evidently a religious, **warlike race** as shown in the relics found in their mounds, including stone altars, hatchets, hammers, arrows and **ornaments** of various kinds.

LESS INTELLIGENT BUT MORE WARLIKE.

The races that came afterwards were less intelligent and more warlike than their predecessors, as seen in the Indian tribes which the early explorers of America found roaming over the country.

In fact it is **difficult** to go anywhere or find any particular place on the American Continent that has not been traversed **before** by human beings.

THE FIRST INDIANS HERE.

The principal Indian tribes of the Ohio country when **discovered** by the French, were the Miamis, the Wyandots, the Shawnees, the Senecas and the Delawares.

The Iroquois, to whom the Senecas belonged, claimed to have **subdued** all the territory between the Alleghanies and the Mississippi, but the Ohio Indians **repudiated their sway** and had, it appears, regained the lands from which they had been driven.

By a treaty signed at Utrecht, a city in a province of the same name in the Netherlands, by representatives from France, Holland, Great Britain, Prussia, Portugal and Savoy, **England obtained** Gibraltar, Hudson Bay territories and Newfoundland. Through that concession **England claimed the right** to call the Iroquois her subjects and the English based their **claim** to the northwest territory on the **pretended** conquest of the Iroquois, as well as the **charter** of James I. to Virginia and of Charles II. to Connecticut.

Assuming their **right to possession** English traders had begun to compete with the French in the **fur trade** of the great lakes as early as **1684.**

THE FRENCH ALSO CLAIMED THIS TERRITORY

The French based their claim to the same territory on the discoveries of Joliet, Marquette and LaSalle, though in so far as the **Ohio River** is concerned there is no conclusive evidence that La Salle ever saw it.

The **little settlement** made at Sandusky, Fort Cadillac built at Detroit in 1701, and the allegiance of most of the Indian tribes, between Lake Erie and the Ohio River, practically gave France the **control** of the debatable ground.

From that period up to the war of the revolution it was a **struggle** between the French and the English to get the support of the Indians, and even up to 1799 **fear** of the Indians **checked immigration** into this region. In the meantime pioneers from Massachusetts had founded Marietta in 1788. Another colony from New Jersey laid out the town of Losantiville in 1789, which name was soon **changed** to Cincinnati.

In 1790 French emigrants founded Gallipolis, and in the same year the **first colony** from Virginia came in and established Massieville, now Manchester.

Ohio Opportunities in Agriculture and Varied Enterprises

PERMANENT PEACE WITH THE INDIANS.

Instigated, it was claimed, by the British, the Indians continued to make trouble until a permanent peace was made in 1795, two-thirds of the state at that time being ceded to the whites.

FOUNDING OF THE WESTERN RESERVE.

In 1792 **500,000 acres** in the western part of the Western Reserve, located in the northern part of Ohio, was **set aside** by Connecticut as compensation to those of her citizens whose property had been **destroyed** by the British during the revolution; and in 1792 the **first settlement** at Cleveland was made.

Fear of the Indians yet checked immigration into the state and not until 1799 did the population reach 5,000, the number necessary to the **establishment** of a legislature.

On Sept. 23, 1799, the first legislature met at Cincinnati, and on the 25th chose William Henry Harrison as its delegate to Congress. **In 1800** Indiana territory was set off, and in 1802 a constitutional convention, convened at Chillicothe, adopted a constitution, and in 1803 state officers were elected, Chillicothe and Zanesville being, at various periods, the capital of the state before it was permanently established at Columbus.

In the war of 1812-15 the young state furnished three regiments to aid in carrying it on. In **1813** General Harrison erected **Fort Meigs** on the Maumee and held it against two attacks of British and Indians under General Proctor. Major Croghan made a brilliant **defense** of a rude fort on the Sandusky, and Lieutenant, afterwards Commodore Perry, in Put-in-Bay, made his victory over the British fleet.

FIRST STEAMBOAT AND FIRST RAILROAD.

In **1812** the **first steamboat** descended the Ohio River, and in 1825-33 the Ohio and Maumee **canals** were constructed, and in 1842 the first railroad between Cincinnati and Springfield was opened. Free schools were established in 1826, and in **1842** the **first** regularly equipped public **astronomical observatory** in the United States was founded at Cincinnati. Ohio gave **5,536 troops** to the Mexican war, appropriated **$1,000,000** for the defense of the Union in the Civil War, and sent **313,180 troops** into the battlefield. The bounties paid to volunteer soldiers amounted to **$23,557,373.**

About one-third the distance from the north to the southern part of the state is found the **dividing ridge,** north of which the streams flow to Lake Erie, and south of which the waters descend to the Ohio River. Lake Erie is **573 feet** above the level of the sea, and yet so much below the dividing ridge, which extends from Trumbull County in the northeast part of the state to Mercer and Darke Counties in the southeast, that the Maumee, the Cuyahoga, the Black, the Sandusky, the Vermillion and the Huron rivers all **empty into** this lake.

The rivers flowing into **the Ohio** are the Muskingum, the Hocking, the Scioto and the Miamis. These rivers all run through highly **fertile valleys,** but it is **not necessary** to go to the valleys for rich land. The state is so **nearly level,** and has retained the fallen grasses so long upon its surface, as to produce a highly fertile soil, which like the other states of level surface make a wealthy population.

RICH SOIL ONLY A PART OF OHIO'S ADVANTAGE.

But the productions of a rich soil are but a part of the immense resources of Ohio. From this state comes the well known Hocking coal, the coal area covers **10,000 square miles,** limestone is quarried in **32 counties,** and sandstone, from which come the celebrated Ohio grindstone, underlies **one half** of the entire area of the state.

The whole of the southeast half of the state is underlaid with coal-bearing formations and the geological surveys show **seven distinct veins** of coal of superior quality for domestic use, or for making gas and smelting iron. The **aggregate thickness** of the coal beds which are convenient to work upon is about **50 feet.**

One of the interesting features of the passage on the Ohio River is the view of coal **mine openings** seen for hundreds of miles, the tunnels running up the slopes from the river directly into the coal beds.

Iron is found in abundance in certain parts of the state, particularly in Perry, Gallia, Licking, Lawrence, Jackson, Vinton, Meigs, Athens and Hocking counties. Some of the ore is of **superior quality** and adapted to the finer class of castings. Clay in all its forms is found in large quantities, carbonate of lime, quick lime, and water cement are very largely manufactured.

Natural gas is found in several sections of the state. The **four oil districts** yield nearly **20,000,000** barrels per annum and give to the state some **$17,000,000** annually.

Ohio is noted for its large variety of valuable **agricultural** production, including wool, flax, milk, butter and cheese, and for stock raising, especially in the southern part of the state, while the upper part of the state, in the lake region, is **celebrated for its grapes,** there being thousands of acres in vineyards in that region.

Ohio is distinguished for its large amount of cultivated land, the great crops including wheat, oats, potatoes, rye, buckwheat, hay and corn in immense quantities. Other products that deserve especial mention are maple sugar, honey, maple syrup and strawberries.

The land seeker who desires to go into a **manufacturing** state finds that region in Ohio. The productions include woodenware, agricultural implements, steel, iron, optical and astronomical instruments, electric materials, electrical equipment of all kinds, refining of oils, safes, deposit vaults, time locks, cooperage, woodworking machinery, wagons, trucks, wheelbarrows, railroad cars, matches, window glass, glassware, silks, cash registers, gristmill products, clothing, furniture, distilled liquors, pressed brick, fire brick, paving brick, drain tile, sewer pipe, and **many other** varieties of manufactured products, the result of being in the immediate vicinity of the **raw material** from which all these goods can be made.

Besides the facilities for transportation **436 miles** on the Ohio River, **230 miles** of water frontage on Lake Erie, **100 miles** of navigation on the Muskingum River, there are **four canals** in the interior of the state.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude. Highest in Logan County, near the middle of the western half of the state, 1,337 feet.

Climate. Average annual at Cleveland 45.87; Cincinnati, 51.37. Average January, Toledo, 26; Cincinnati, 33. July average, Toledo, 74; Cincinnati, 78. Extremes, Cincinnati, 105, and 17 below; Toledo 102 and 16 below. Annual rainfall, Cincinnati, 39.9 inches; Toledo, 30.9 inches.

Dimensions. Extreme length of the state north and south 205 miles. Extreme width east and west, 230 miles. Area 41,060 square miles.

AMERICAN ANTIQUITIES IN OHIO.

Among interesting relics of a people that once lived in the Mississippi Valley and in Ohio, were the Mound Builders. Who they were, whence they came and when they disappeared nobody knows.

Among these vestiges of a past age are numerous mounds in Ohio. One of them, is on the banks of the Little Miami River in Ohio, at Fort Hill, has a line of circumvallation nearly four miles in extent, varying in height, according to the natural strength of the point protected, from 10 to 20 feet, and embracing an area of several hundred feet. At Newark, Ohio, they cover an area of more than two miles square, and probably comprise upward of 12 miles embankment from two to twenty feet in height.

One of these, surveyed in 1846, on the banks of brush Creek, in Adams County, Ohio, is in the form of a serpent over 1,000 feet in length, extended in graceful curves and terminating in a triple coil at the tail.

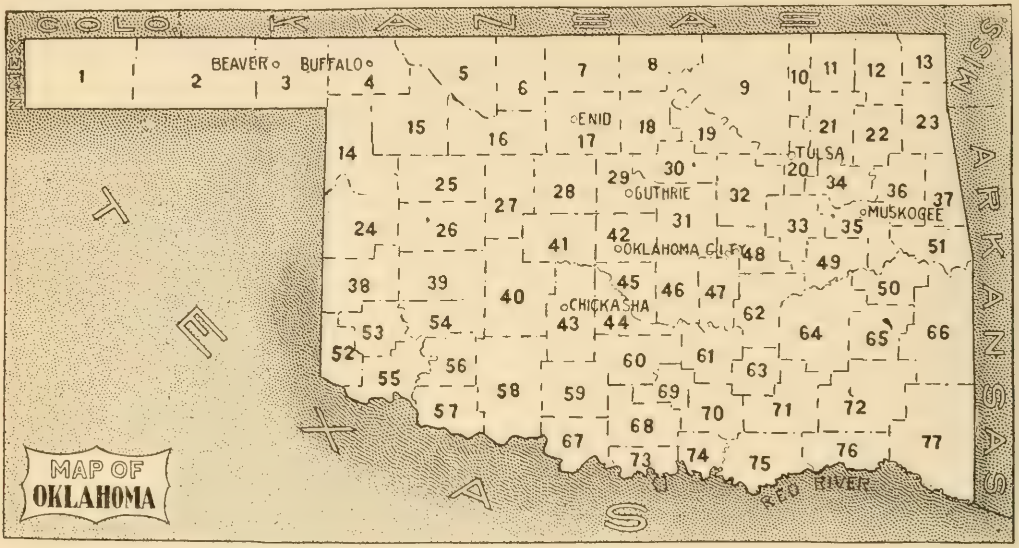
These mounds were evidently burial places, and to appease the gods various objects were deposited in the graves, evidences existing of religious ceremonies and altars being found with the skeletons of those who had been buried.

Evidently great difference of opinion existed as to suitable position for placing of the bodies of the dead. Sometimes the body was laid horizontally, sometimes bent double. Often a number of bodies were piled in a common grave. Frequently a mound covered a solitary skeleton, while in another the dead laid in large numbers.

In many districts incineration was the custom, and the ashes were collected and put in urns, sometimes even in human skulls.

STATE AND THE 77 COUNTIES OF OKLAHOMA

With Their Boundaries



LOCATION AND POPULATION OF OKLAHOMA COUNTIES.

Loca.	County	Pop.
1	Cimarron	4,553
2	Texas	14,249
3	Beaver	13,631
4	Harper	8,189
5	Woods	17,567
6	Alfalfa	18,138
7	Grant	18,760
8	Kay	26,999
9	Osage	20,101
10	Washington	17,484
11	Nowata	14,223
12	Craig	17,404
13	Ottawa	15,713
14	Ellis	15,375
15	Woodward	16,592
16	Major	15,248
17	Garfield	33,050
18	Noble	14,045
19	Pawnee	17,332
20	Tulsa	34,995
21	Rogers	17,936
22	Mayes	13,596
23	Delaware	11,469
24	Roger Mills	12,861
25	Dewey	14,132
26	Custer	23,231
27	Blaine	17,960
28	Kingfisher	18,825
29	Logan	31,740
30	Payne	23,735
31	Lincoln	34,779
32	Creek	26,223
33	Okmulgee	21,115
34	Wagoner	22,086
35	Muskogee	52,745
36	Cherokee	16,778
37	Adair	10,535
38	Beckham	19,699
39	Washita	25,034
40	Caddo	35,685
41	Canadian	23,501
42	Oklahoma	85,232
43	Grady	30,309
44	McClain	15,659
45	Cleveland	18,843
46	Pottawatomie	43,595
47	Seminole	19,964
48	Okfuskee	19,995
49	McIntosh	20,961
50	Haskell	18,875
51	Sequoyah	25,005
52	Harmon	11,328
53	Greer	16,449
54	Kiowa	27,526
55	Jackson	23,737
56	Swanson	.....
57	Tillman	18,650
58	Comanche	41,489
59	Stephens	22,253
60	Garvin	26,545
61	Pontotoc	24,331
62	Hughes	24,040
63	Coal	15,817
64	Pittsburg	47,650
65	Latimer	11,321
66	Le Flore	29,127
67	Jefferson	17,430
68	Carter	25,358
69	Murray	12,744
70	Johnston	16,734
71	Atoka	13,808
73	Love	10,236
72	Pushmataha	10,718
74	Marshall	11,619
75	Bryan	29,854
76	Choctaw	21,862
77	McCurtain	20,681
Total		1,657,155

Oklahoma Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
*Ada	61	4,349
Adair	22	376
Addington	67	493
Afton	13	1,279
Agra	31	366
Alabama	48	261
Albion	72	209
Alderson	64	786
Alex	43	224
Aline	6	303
Allen	61	645
*Altus	55	4,821
*Alva	5	3,688
Amabala	48	208
Ames	16	290
*Anadarko	49	3,439
*Antlers	72	1,273
Apache	40	950
*Arapaho	26	713
*Ardmore	68	8,618
Ark	73	202
Arnett	14	511
Asher	46	381
*Atoka	71	1,968
Augusta	6	490
B		
*Bartlesville	10	6,181
*Beaver	3	326
Bebee	61	209
Beggs	33	855
Bennington	75	513
Berwyn	68	378
Bessie	39	480
Beulah	21	265
Bigheart	9	307
Billings	18	524
Binger	40	280
Bismark	77	560
Bison	17	290
Bixby	20	384
Blackburn	19	335
Blackwell	8	3,266
Blair	55	508
Blanchard	44	629
Bluejacket	12	508
Bokchito	75	535
Bokoshe	66	483
Boley	48	1,334
Boswell	76	828
Boynton	35	679
Braggs	35	259
Braman	8	339
Bridgeport	40	428
Bristow	32	1,667
Britton	42	696
Broken Arrow	20	1,576
Bromide	70	202
Brooken	50	200
Buck	64	590
*Buffalo	4	282
Byars	44	487
Byron	6	286
C		
Cache	58	317
Caddo	75	1,143
Calvin	62	570
Cameron	66	206
Campbell	51	316
Canadian	64	481
Caney	71	295
Canton	27	703
Canute	39	250
Capitol Hill	42	1,361
Carbon	64	590
Carmen	6	883
Carnegie	49	835
Carney	31	260

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Oklahoma Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Carrier	17	250
Cashion	28	289
Castle	48	294
Catoosa	21	404
Cement	40	770
Centrahoma	63	666
Centralia	12	387
Cestos	25	200
*Chandler	31	2,024
Chant	50	882
Chattanooga	58	471
Checotah	49	1,683
Chelsea	21	1,350
*Cherokee	6	2,016
*Cheyenne	24	468
*Chickasha	43	10,320
Chilocco	8	562
Choctaw	42	242
Choteau	22	483
*Claremore	21	2,866
Clarksville	34	388
Cleo	16	425
Cleveland	19	1,310
Clinton	26	2,781
Coalgate	63	3,255
Colbert	75	200
Collinsville	21	1,324
Comanche	59	1,301
Copan	10	307
*Cordell	39	1,950
Cornish	67	489
Coweta	34	1,187
Cowlington	66	378
Coyle	29	413
Craig	64	290
Crescent	29	903
Cross	8	220
Crowder	64	529
Cumberland	74	450
Cushing	30	1,072
Custer	26	854
D		
Dale	46	250
Davenport	31	394
Davidson	57	361
Davis	69	1,416
Dawson	20	320
Delaware	11	662
Depew	32	1,344
Devol	58	300
Dewey	10	1,344
Dill	39	240
Dougherty	69	278
Dover	28	377
Dow	64	200
*Duncan	59	2,477
*Durant	75	5,330
Durwood	68	225
Dustin	62	579
E		
Earl	70	225
Earlsboro	46	388
Edmond	42	2,090
Eldorado	55	926
Elk City	38	3,165
Elmore City	60	266
*El Reno	41	7,872
Emet	70	590
*Enid	17	13,799
Enterprise	50	560
Erick	38	915
Erin Springs	60	362
*Eufaula	49	1,307
F		
Fairfax	9	819
Fairland	13	569
*Fairview	16	2,020
Fallis	31	248
Fargo	14	341
Faxon	58	215
Fay	25	280
Fitzhugh	61	260
Fletcher	58	374
Foraker	9	415
Fort Cobb	40	382
Fort Gibson	35	1,344
Fort Reno	41	550
Fort Sill	58	2,500
Fort Towson	76	697
Foss	39	525
Foyil	21	250
Francis	61	931
*Frederick	57	3,027
G		
Gage	14	924
Gans	51	351
Garber	17	382
Garvin	77	957
Geary	27	1,452
Glencoe	30	373
Glenpool	20	1,509
Goltry	6	320
Gore	51	390
Gotebo	54	740
Grandfield	57	830
Granite	53	1,229
Grant	76	416
Grayson	49	1,086
*Grove	23	888
Guertie	62	305
*Guthrie (capital)	29	11,654
*Guymon	2	1,342
H		
Haileyville	64	2,024
Harrah	42	356
Hartshorne	64	2,963
Haskell	35	857
Hastings	67	727
Hattenville	13	582
Haworth	77	200
Headrick	55	270
Heavener	66	780
Helena	6	760
Hennessey	28	1,665
Henryetta	33	1,671
Hickory	69	350
Hill	66	290
Hinton	40	686
Hitchcock	27	275
*Hobart	54	3,845
Hochatown	77	509
Hoffman	49	307
*Holdenville	62	2,296
*Hollis	52	964
Homestead	27	300
Hominy	9	760
Hooker	2	525
Howe	66	538
Hoyt	50	200
Hughart	50	690
*Hugo	76	4,582
Hulbert	36	300
Hunter	17	341
Hydro	40	562
I		
*Idabel	77	1,493
Illinois	51	390
Independence	26	308
Indianola	64	481
Ingersoll	6	253
Inola	21	405
J		
Jefferson	7	281
Jenks	20	290
Jennings	19	361
Johnson	44	230
K		
Kanima	50	208
Kansas	23	220
Kaw	8	486
Kemp	75	336
Kendrick	31	221
Kenefic	75	260
Keota	50	220
Keystone	19	273
Kiefer	32	1,197
Kildare	8	216
*Kingfisher	28	2,538
Kingston	74	439
Kinta	50	326
Kiowa	64	1,021
Konawa	47	761
Kosoma	72	260
Krebs	64	2,884
Kremlin	17	253
L		
Lahoma	17	275
Lakemp	3	390
Lamar	62	360
Lamont	7	635
Langston	29	339
*Lawton	58	7,788
Lebanon	74	202
Leflore	66	326
*Lehigh	63	1,880
Lenapah	11	412
Lenora	25	250
Lexington	45	768
Lincolnville	13	300
Lindsay	60	1,156
Loco	59	350
Lone Grove	68	222
Lone Wolf	54	677
Longdale	27	296
Lookeba	40	217
Loveland	57	306
Lovell	29	230
Lowrey	36	260
Luther	42	310
Lutie	65	566
M		
*McAlester	64	12,954
McCurtain	50	526
McLoud	46	638
MacArthur	24	300
*Madill	74	1,564
Manchester	7	271
*Mangum	53	3,667
Manitou	57	412
Mannsville	70	515
Maramec	19	224
Marble City	51	342
*Marietta	73	1,546
Mark	22	302
Marlow	59	1,965
Marshall	29	480
Maud	46	503
Maysville	60	476
Mead	75	250
*Medford	7	1,110
Meeker	31	349
*Miami	13	2,907
Midland	61	200
Midway	63	296
Millcreek	70	626
Minco	43	706
Mission Mines	13	226
Moore	45	225
Mooreland	15	493
Morris	33	387
Morrison	18	327
Mounds	32	701
*Mountain Park	56	449
Mountain View	54	855
Moyers	72	200
Muldrow	51	671
Mulhall	29	441
*Muskogee	35	25,278
Mutual	15	264
N		
Nardin	8	277
Nashville	7	348
*Newkirk	8	1,992
Ninnekah	43	225
Noble	45	403
*Norman	45	3,724
*Nowata	11	3,672
O		
Oakland	74	366
Oberlin	75	206
Ochelata	10	550
Okarche	41	402
Okeene	27	920
*Okemah	48	1,389
*Oklahoma	42	64,205
*Okmulgee	33	4,176
Oktaha	35	324
Olustee	55	850
Oologah	21	255
Orlando	29	340
Orr	73	222
Osage	9	665
Otoe	18	408
Owasso	20	373
P		
Paden	48	419
Panama	66	310
Paoli	60	239
*Pauls Valley	60	2,689
*Pawhuska	9	2,766
*Pawnee	19	2,161
Peggs	36	263
Perkins	30	603
*Perry	18	3,133
Phillips	63	680
Piedmont	41	255
Pittsburg	64	590
Ponca	8	2,521
Pond Creek	7	1,113
Pontotoc	70	299
Porter	34	637
Porum	35	548
*Poteau	66	1,830
Prague	31	1,025
Preston	33	590
Price	47	508
*Pryor	22	1,798
*Purcell	44	2,740
Purdy	60	200
Q		
Quapaw	13	350
Quay	19	226
Quinlan	15	355
Quinton	64	697
R		
Ralston	19	597
Ramona	10	725
Randlett	58	574
Ravia	70	556
Redfork	20	350
Redoak	65	398
Redrock	18	378
Reevesville	35	306
Renfrow	7	207
Rentiesville	49	411
Ringwood	16	271
Ripley	30	368
Rocky	39	378
Roff	61	1,044
Roland	51	228
Romulus	46	200
Roosevelt	56	298
Rush Springs	43	823
*Ryan	67	1,207
S		
Salina	22	250
*Sallisaw	51	2,479
Saltfork	7	226
Sans Bois	50	208
*Sapulpa	32	8,283
Sasakwa	47	241
Savanna	64	266
*Sayre	38	1,881
Scipio	64	306
Seiling	25	352
Seminole	47	476
Sentinel	39	857
Shattuck	14	1,231
Shawnee	46	12,474
Short	51	209
Skedee	19	289
Skiatook	20	606
Snyder	56	1,122
Soper	76	233
Sparks	31	421
Spencer	42	232
Spiro	66	1,173
Springer	68	320
Stanley	72	206
Sterling	58	276
Sterrett	75	575
*Stigler	50	1,583
*Stillwater	30	3,444
Stilwell	37	1,039
Stonewall	61	494
Stratford	60	685
Springtown	71	260
Stroud	31	1,220
Sugden	67	321
*Sulphur	69	3,684
Sutter	66	350
T		
Taft	35	352
*Tahlequah	36	2,891
Talala	21	340
Talihina	66	491
*Taloga	25	468
Tamaha	50	498
*Tecumseh	46	1,621
Teller	70	206
Temple	58	852
Terral	67	573
Texhoma	2	372
Texola	38	361
Thomas	26	1,371
Tipton	57	441
*Tishomingo	70	1,408
Tonkawa	8	1,776
*Tulsa	20	18,182
Tupelo	63	387
Tushka	71	380
Tuttle	43	794
V		
Valliant	77	656
Vera	10	312
Verdark	35	208
Verden	43	524
Vian	51	794
*Vinita	12	4,082
Violet	46	291
Vireton	64	208

Oklahoma Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
W		
*Wagoner	34	4,018
Wainwright	35	250
Wakita	7	405
Walter	58	1,377
Wanette	46	677
Wann	11	286
Wapanucka	70	948
Warner	35	291
*Watonga	27	1,723
Waukomis	17	533
Waurika	67	2,928
Wayne	44	332
Waynoka	5	1,160
Weatherford	26	2,118
Webbers Falls	35	380
Welch	12	684
Weleetka	48	1,229
Weston	15	590
West Tulsa	20	306
*Westville	37	802
Wetumka	62	1,190
*Wewoka	47	1,022
Whitefield	50	350
*Wilburton	65	2,277
Wild Cat	49	411
Williams	66	400
Wister	66	498
Woodville	74	389
Woodward	15	2,696
Wyandotte	13	255
Wybark	35	200
Wynne Wood	60	2,002
Y		
Yale	30	685
Yeager	62	231
Yukon	41	1,018

OKLAHOMA

A young State celebrated a few years ago from the rush of people who camped on its borders to be in readiness to occupy its lands as soon as opened for settlement.

Our readers will remember the excitement created a few years ago when territory forming a part of Oklahoma was opened to the public and those so fortunate as to possess a lucky ticket in a lottery drawing could go into the new land and take up a government claim on government land conditions.

DID NOT KNOW OF OTHER OPPORTUNITIES.

Those individuals who camped there for days waiting for permission to get onto the newly opened land, and those who struggled to get a farm on homestead terms there and did not succeed, evidently **did not know** that thousands of acres of irrigated fertile lands were waiting for their coming at many points **outside** of Oklahoma in the Great West. They did not know of the tens of thousands of fertile cheap lands in the Great South, where two or three crops a year can be grown on the same land. They did not know of the **hundreds** of cheap farms that are offered in New England—farms of **50, 100 and 200** acres, well located, that are offered at prices far below what the buildings alone on these farms would cost. They did not know what **opportunities** existed for getting cheap lands on every hand, as shown in this "Guide for Land Seekers," and hence the **struggle** to get possession of Oklahoma lands.

In this we are **not saying one word** against Oklahoma. On the contrary, investigation of the possibilities and actualities of this region shows that the State is all that it was anticipated to be. But what we would **emphasize** right here is that after a scramble of that kind there always will be **abundance** of opportunities left. Let the land seeker **bide his time.** In one or two years after farms have been taken and are improved large quantities of these lands will **come into** the market for sale. Deaths, removals and disappointments will work their changes and great numbers of these pioneers will be **willing and anxious** to "sell out" at a less price than even the improvements have cost.

Oklahoma properties are perhaps an exception to that rule. The soil here has been **found** to be very fertile and adapted to the growth of a **great variety** of products, ranging all the way from apples to peanuts, from cotton to broom corn, from melons to strawberries. In fact, agriculture is proving so profitable as to make less anxiety to sell than is found in many states. Yet with prosperous conditions existing throughout the State, our review of different counties shows that farm lands can be obtained at very reasonable prices.

GREATLY IN FAVOR OF OKLAHOMA.

First, greatly in behalf of Oklahoma is a very favorable climate. It is situated **far enough south** to escape the long winters of the north, and far enough **north** to escape the fevers and malaria of many southern sections. She is far enough north to escape the enervating effect of a fruitless climate without being far enough to necessitate **expensive** preparations for winter. While the snows of winter **sometimes** fall here they are but of short duration and seldom make extra care of stock necessary.

Experience of several years' settlement has proved that the **greater portion** of Oklahoma is well within the rain belt or **safe crop** region and that all east of Beacon County can be **depended** upon for wheat, oats, cotton, vegetables, alfalfa and the various forage crops. Experience has **proven** that crops in Oklahoma are as certain and more profitable and prolific than in many of the older sections of the country. Storms are no more common here than in other central states, while periods of great drouth are much more disastrous in the valley of the Mississippi than on the prairies of this State.

OKLAHOMA FOR HEALTH.

As for healthfulness it would be hard to find a better climate than that of Oklahoma. The elevation is great enough to preclude the fevers and malarias of the lowlands, while the purity of the atmosphere insures strong lungs and healthy circulation. The **breezes** of the prairie disperse the microbes of disease and keep the air healthful and invigorating, while **the sunshine** plays an important part. As the elevation is more or less associated and connected with the climate it is well **to give** the elevation or altitude of some of the leading points in the territory. Thus the altitude of Oklahoma City is 1,200 feet above sea level; Chandler, 900; Guthrie, 932; Lawton, 1,250; Enid, 1,244; Hobart, 1,528; Shawnee, 1,045; Arapaho, 1,560; Perry, 871, and Wichita Mountains, 3,000.

Oklahoma has a variety of soils, but it all appears to be productive. In some localities the deep **black loam** prevails, while in others the color is a **rich brown** or reddish hue. In some places there is a considerable proportion of sand and in others a gumbo formation like some of the rich lands of Illinois. The **bottom** lands are more generally black and on the uplands the red or mulatto soil prevails. **The red soil** of the uplands is **excellent for wheat** and other small grains and grasses, but not so good for corn as the black land. However, with all the varieties of soil they are all good and there is but a small portion of the State that is not smooth enough and productive enough for profitable cultivation.

VARIED ENOUGH TO SUIT ANY TASTE.

The surface of the country is sufficiently diversified to suit all tastes. The whole area gently **slopes** toward the east, in which direction the streams generally run. While several large rivers cross the territory, these are fed by numerous brooks and small affluents which give **every section** an abundance of running water. Springs abound in some regions and well water can be obtained by digging to a moderate depth.

While a very **large per cent** of Oklahoma is a level or gently rolling prairie country, there are also some large areas of **timber** and here and there a range of hills. Much of the eastern portion of the State is covered with a fair growth of timber, while the **central** and western portions are more generally prairie. As a rule, the river banks are **not bordered** with bluffs, as in some States, and the land is tillable to the edge of the streams. In the western portion some of the streams are bordered by sand hills that look as though they may have been beds of streams in times past. A **few** rocky hills may be found but they are scarce. In the southwestern part of the State are found the Wichita Mountains, an irregular range of rugged hills, extending from east to west about sixty miles, and about half that from north to south. In that vicinity, but detached from the range, there are numerous isolated, rugged hills, on the otherwise level prairie, adding to the picturesqueness of the scene. Portions of the Wichita range reach a **height of 2,000** feet above the level of the surrounding country. They are probably a **detached spur** of the Rocky Mountains. In this mountain range there are many **beautiful valleys,** natural parks, sparkling streams and flowing springs.

MUCH HEAVY TIMBER.

While mainly a prairie country, there are certain portions of the State heavily timbered, principally with **hardwoods.** In a few years the rapidly growing trees in cultivated groves will solve the fuel problem on the prairie farms, where hedges and windbreaks are found on every hand.

Oklahoma Opportunities in Agriculture and Varied Enterprises

OKLAHOMA A YOUNG STATE.

We must remember that Oklahoma is young yet, but enough has been discovered to show that it is rich **in undeveloped** resources in the form of minerals, stone, gas, oil and salt. Here is asphalt needed for streets, but it takes capital and labor to prepare it for market. **Cement** is in demand all over the country, and the **raw material is here** in abundance. Vast deposits of **petroleum** are waiting for the refiner to **prepare** it for everyday use. Thousands of bales of **cotton** are annually shipped from the State to be made into fabrics which should be made here.

But **space is too limited** to tell what **should** and **may** be done here. People have been so busy in making money from the staple crops that they have **not had time** to look beneath the soil, to develop other enterprises which in time will be found sources of great profit.

We regret that lack of space prevents our presentation more fully of Oklahoma's agricultural conditions and manufacturing possibilities, and content ourselves with brief mention of some of the counties.

ATTRACTIONS OF VARIOUS COUNTIES.

Pottowatomie County is becoming noted as a **cotton** raising section, while wheat and corn flourish with equal success. The peach takes naturally to the soil and climate here, though apples and strawberries are grown with great success. **Shawnee,** one of the young cities in this county which had a population of 300 in 1895, and 3,462 in 1900, reported 17,300 inhabitants in 1905, with three daily and five weekly papers, and that over 400 business houses and residences were constructed in the single twelve months of 1903. **Of agricultural** productions nearly 1,000 carloads of potatoes, which ripen very early in this section, were shipped out of the county during May and June, 1904, the prices ranging from 60 to 70 cents per bushel on the ground.

WHAT HAS BEEN IN THE PAST.

Woods County in the northwestern part of the territory is another sample county, having, besides a fertile soil, plenty of timber, with salt, gypsum, coal and fine building stone, found in the county, but **none** of them yet extensively developed.

Recent transfers here show the selling price of farm lands to range from $2 to $4 per acre.

Grant County lands lying in the middle of the northern part of Oklahoma are selling at prices varying from $15 to $37.50 per acre. The farmers in **this section** give their attention to wheat, corn, castor beans and cattle.

The raising of **cattle and hogs** has proved profitable. The winter wheat fields are used for pasturing and curiously to the seeming betterment of the wheat. The chief manufacturing industry in the county is the making of flour. There are large **salt plains** here capable of profitable development.

Farm lands in other counties are selling at following prices:

Garfield County, from $13 to $33.75 per acre. Average price, $23 per acre.

Noble County, $2.50 per acre up.

Blaine County, prices range firm, $6.25 to $28. Average price of farm lands, $11.74.

Kingfisher County, average $18.61 per acre.
Logan County, $25 to $42.75 per acre.
Caddo County, $10 to $53. Average, $20.70 an acre.
Kiowa County, $6.50 to $25.70. Average $15.31.
Greer County, $6 to $30. Average, $12.
Comanche County, $7.75 to $23.50. Average $13.95.
Beaver County, $2.18 to $28.12. Average, $6.21.
Roger Mills County, $4 up. Average, $11.11.

The average annual rainfall determines prices a little; thus, the rainfall in Beaver Co. is 22 inches, in Pottawatomie Co. it is 32.98, in Woods Co. 27.40 inches, Garfield Co. 29.46 inches, Noble Co. 32.45 inches, Blaine Co. 28 inches, Kingfisher Co. 30 inches, etc., etc.

The average annual temperature varies slightly from 60.1 in Pottawatomie Co. to 56.2 in Beaver Co. Extremes of temperature we give elsewhere.

CONDENSED IMPORTANT FACTS RELATING TO OKLAHOMA.

Altitude.—Highest, Wichita Mountains, Comanche Co., 2,536 feet.

Climate.—Average January temperature at Fort Sill, Comanche Co., 35. July, 82. Extremes: warmest, 107; coldest, 9 below. Annual rainfall, 31.2 inches.

Dimensions.—Extreme length north and south, 210 miles. Extreme breadth, east and west, 365 miles. Area of state, 39,030 square miles.

History.—Originally a part of the Louisiana purchase in 1803. Treaty rights of the Indians bought by U. S. in 1886. Thrown open to settlement in 1889, at which time, at the signal of a pistol shot tens of thousands of people who had camped for days on the borders of this new land rushed into file claims on the new government land. Organized as a territory in 1890. No Man's Land, including Beaver County, added in 1890. The counties of Blaine, Day, Dewey, Washita, Custer and western portions of Canadian and Kingfisher Counties added in 1892. The Cherokee Strip, including the counties of Kay, Grant, Woods, Garfield, Woodward, Noble and Pawnee, opened to the public by another rush 1893. Greer County, taken from Texas and added to Oklahoma by a decree of the Supreme Court 1896. The Kiowa, Comanche, Apache and Wichita Indian reservations opened to white settlement by a lottery drawing in which 176,000 persons participated in 1901. Another large area to be opened to white settlement is the Osage reservation in the northwestern corner of the territory.

AGRICULTURAL ITEMS RELATING TO OKLAHOMA

Taxes in Oklahoma are not high, and are decreasing.

In its clay beds Oklahoma has one of its most valuable resources.

As a region adapted to successful fruit growing Oklahoma offers attractions peculiarly its own.

Still another special line of industry with the brightest of prospects for the settler in Oklahoma is poultry raising.

The flouring-mill industry of Oklahoma has already attained sufficient proportions to give it rank as an important factor.

Angora goats thrive in Oklahoma, and the raising of them will undoubtedly become a settled industry.

Inexhaustible deposits of gypsum, from which plaster, cement, and fertilizers are manufactured are widely scattered throughout the Territory.

Wild plums grow in greater profusion and variety in Oklahoma than anywhere else in the Union, and the cultivated varieties also succeed. Plum growing is an industry capable of great development. Cherries are profitably grown for shipment.

The corn crops in the eastern and southern halves of Oklahoma have been a success from the start. In Canadian county ears of corn 14 inches in length and 10 inches in circumference were plucked at a height of eight feet from the ground.

There are still vast tracts of public land in Oklahoma—subject to homestead entry, which offer golden opportunities to the settler. The largest areas yet vacant are in the northwestern portion of the Territory—in particular Beaver county.

Sweet potatoes are excellently adapted to successful cultivation in the sandstone soils of eastern Oklahoma when these are cleared of timber.

The rainfall of Oklahoma, averaging annually about 31 inches, is not only adequate, but plentiful for the successful production of all crops.

Oil and natural gas were discovered in 1900 at the western end of the Wichita mountain range, and since that in several other locations.

There is no more favored region than Oklahoma in the world for the raising of durum (hard) wheat, more commonly known as "macaroni" wheat.

In 1904, according to the Governor's report, there were 2,095,427 acres of vacant land in Oklahoma, of which 1,838,030 acres were located in Beaver county.

In every county in Oklahoma sheep raising is carried on more or less extensively. More than one-third of the total number of sheep in the Territory, however, are found in Beaver county.

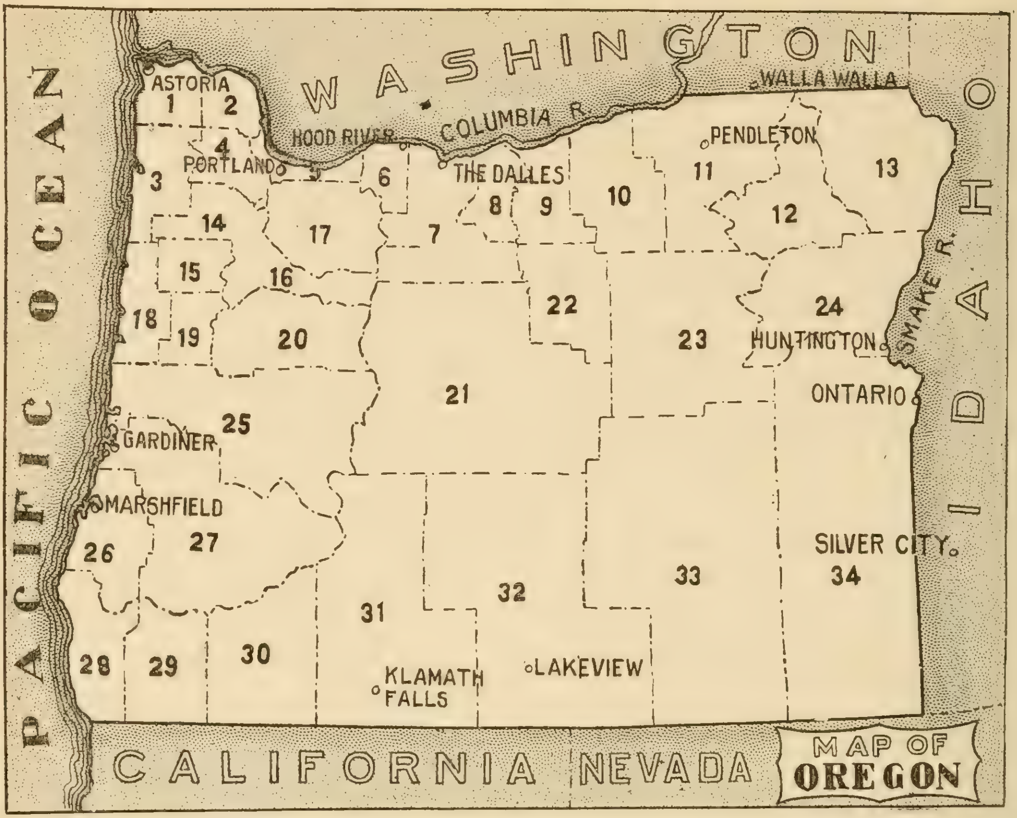
In the granite fields of Greer county, at the town of Granite, there are exposed above ground beds of the very best quality of red granite sufficient to supply the world for years to come.

The cotton-growing industry is largely confined to the counties of the central and southeastern parts of the Territory; it is also being grown with success in the southwestern counties.

Since 1900 the output of the flour mills of Oklahoma has been enormous. Oklahoma flour is shipped to Canada on the north and the Gulf States on the south, and vast quantities are exported over-sea.

STATE AND THE 34 COUNTIES OF OREGON

With Their Boundaries



LOCATION AND 1910 POPULATION OF OREGON COUNTIES

Loca.	County	Pop.
1	Clatsops	16,106
2	Columbia	10,580
3	Tillamook	6,266
4	Washington	21,522
5	Multnomah	226,261
6	Hood Hiver	8,016
7	Wasco	16,836
8	Sherman	4,242
9	Gillian	3,701
10	Morrow	4,757
11	Umatilla	20,309
12	Union	16,191
13	Wallowa	8,364
14	Yamhill	18,285
15	Polk	14,469
16	Marion	89,780
17	Clackamas	29,931
18	Lincoln	5,587
19	Benton	10,663
20	Linn	22,662
21	Crook	9,315
22	Wheeler	2,484
23	Grant	5,607
24	Baker	18,076
25	Lane	33,783
26	Coos	17,959
27	Douglas	19,674
28	Curry	2,044
29	Josephine	9,567
30	Jackson	25,765
31	Klamath	8,554
32	Lake	4,658
33	Harney	4,059
34	Malheur	8,601
	Total	672,765

Cities and Villages of Oregon with 1910 Populations

Towns	Loca.	Pop.
A		
Adams	11	205
*Albany	20	4,275
Amity	14	407
Armitage	25	317
Ashland	30	5,021
*Astoria	1	9,599
Athena	11	586
B		
*Baker	24	6,742
Bandon	26	1,803
Banks	4	299
Bay City	3	281
Beaverton	4	386
Bend	21	536
Bridge	26	200
Brownsville	20	919
*Burns	33	904
Buxton	4	260
C		
Canby	17	587
*Canyon City	23	364
Carlton	14	386
Carson	24	208
Cascade Locks	6	275
Central Point	30	761
Chemawa	16	599
Clatskanie	2	747
Coburg	25	613
*Condon	9	1,004
Copperfield	24	251
*Coquille	26	1,398
Cornelius	4	450
*Corvallis	19	4,552
Cottage Grove	25	1,834
Cove	12	433
Creswell	25	369
D		
*Dallas	15	2,124
Dalles City	7	4,880
Dayton	14	452
Drain	27	335
Dufur	7	523
Dundee	14	260
E		
Eastside	26	252
Echo	11	420
Elgin	12	1,121
*Enterprise	13	1,242
Estacada	17	405
*Eugene	25	9,009
F		
Fairview	26	204
Falls City	15	969
Florence	25	311
Forest Grove	4	1,772

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of Oregon with 1910 Populations

Towns	*Loca.*	*Pop.*
Fort Klamath	31	200
Fort Stevens	1	360
*Fossil	22	421
Freewater	11	532
G		
Gardiner	27	391
Gervais	16	276
Glendale	27	646
Gold Hill	30	423
*Grants Pass	29	3,897
Grass Valley	8	342
Gresham	5	541
H		
Haines	24	423
Halsey	20	337
Harrisburg	20	453
*Heppner	10	889
Hermiston	11	647
*Hillsboro	4	2,016
*Hood River	6	2,331
Houlton	2	347
Hubbard	24	283
Huntington	24	681
I		
Imbler	12	360
Independence	15	1,161
Ione	10	234
J		
*Jacksonville	30	785
Jasper	25	415
Jewell	1	258
Joseph	13	725
Junction City	25	759
K		
*Klamath Falls	31	2,758
L		
La Fayette	14	412
*La Grande	12	4,843
*Lakeview	32	1,251
Lebanon	20	1,821
Linnton	5	360
Lostine	13	231
M		
*McMinnville	14	2,399
Madras	21	364
Marshfield	26	2,981
Medford	30	8,841
Mill City	16	499
Milton	11	1,281
Milwaukee	17	861
Mist	2	251
Mitchell	22	211
Monmouth	15	493
Monroe	19	266
*Moro	8	378
Mt. Angel	16	545
Myrtle Creek	27	429
Myrtle Point	26	836
N		
New Astoria	1	557
Newberg	14	2,261
New Era	17	208
New Pine Creek	32	200
Newport	18	721
North Bend	26	2,078
North Powder	12	455
North Yamhill	14	451
Nyssa	34	449
O		
Oakland	27	467
Ontario	34	1,248
*Oregon City	17	4,287
Orient	5	306
Oswego	17	544
P		
Paisley	32	266
Parkplace	17	200
*Pendleton	11	4,461
Perry	12	302
Philomath	19	505
Phoenix	30	351
Pilot Rock	11	202
*Portland	5	207,214
Prairie City	23	348
*Prineville	21	1,042
Prosper	26	251
R		
Rainier	2	1,357
Richland	24	334
*Roseburg	27	4,738
S		
*St. Helen	2	742
St. Johns	5	4,872
Salem (capital)	16	14,094
Scappoose	2	202
Scio	20	295
Scottsburg	27	220
Scotts Mills	16	251
Seaside	1	1,121
Shaniko	7	495
Sheridan	14	1,021
Silverton	16	1,588
Springfield	25	1,338
Stanfield	11	318
Stayton	16	703
Summerville	12	237
Sumpter	24	643
Sweet Home	20	202
T		
*The Dalles	7	4,881
*Tillamook	3	1,352
*Toledo	18	541
Troutdale	5	309
Turner	16	260
U		
Unatilla	11	200
Union	12	1,483
V		
Vale	34	396
W		
Wallowa	13	793
Warrenton	1	339
Wasco	8	386
Wendling	25	299
Weston	11	526
Willamette	17	317
Willamina	14	376
Woodburn	16	1,616
Y		
Yamhill	14	325
Yankton	2	308
Yoncalla	27	233

OREGON

A Pacific Coast State—A Superior Fruit Region With Mild Climate

In a study of Oregon we are convinced that there are **several reasons** why land-seekers should investigate the opportunities offered for prosperous settlement in that state. First, it is a **large** state **with such variety** of soil, climate and **opportunity** for various enterprises as to suit almost any particular taste. If wanting to engage in **stock raising** there are lands **admirably** adapted to that; if apple culture is intended, or wheat, or hops, raising sugar beets, or canning salmon; if the lumbering business is desired, cultivating of oysters, mining, growing strawberries or conducting a poultry farm, the **climate, soil, markets** and **facilities** are all here which conduce to success in **any one** of these or other enterprises.

TWO DISTINCT PARTS OF THE STATE.

The state is divided into two distinct parts by the Cascade Range of mountains which extends a distance of **375 miles,** from north to south, through the state. These mountains begin at the Columbia river, in the west part of Wasco county, and continue to Klamath county.

This brings Benton, Clakamas, Clatsop, Columbia, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Multomah, Polk, Tillamook, Washington and Yamhill—18 counties—into **another region,** another soil, and another climate by itself, where the rainfall in Washington county at Portland is 47 inches a year, while it is but 10 inches a year at Pendleton in Umatilla county, and while it is 68 inches at Astoria in Clatsop county, the precipitation east of the Cascade Range is from 12 to 20 inches.

The Oregon region west of the Cascade Range is **naturally** divided into three parts—three great valleys fed by three rivers, the Willamette, the Umpqua and the Rogue.

SIZE OF SOME OF THE VALLEYS.

The Willamette valley extends **north and south** between the Cascade Mountains and the Coast range for a distance of **130 miles,** having a width of **fifty miles** and a general area of 7,800 square miles. It contains nearly **one-half** the population and wealth of the state. The Willamette river, which flows through this valley, is one of the **chief tributaries** of the Columbia west of the Cascades. It is **250 miles** long, flows northward, is navigable for large ships to Portland and during **two-thirds** of the year small steamboats ascend to Eugene in Lane county, **150 miles** from its mouth. The **falls** at Oregon City, in Blackamas county, which afford excellent water power, have **locks** for the use of these boats.

IMPORTANT RIVERS IN OREGON.

The Umpqua river rises in the Cascade Mountains, in Douglas county, in **two** branches, and flows **westward** to the sea, between two ranges of mountains, bordered by a valley about **200 miles long** of rich soil, which produces large crops. The Rogue river also has **its** source in the Cascade Mountains and flowing westward, through Jackson, Josephine and Curry counties, empties into the Pacific, its length being about **120 miles.** While smaller than the others the Rogue valley **is very rich** agriculturally.

WHY OREGON CLIMATE IS SO MILD.

The climate is generally very mild, due to the **same causes** which affect the other Pacific states. The winds for three-fourths of the year blow **from the southwest,** or off the warm body of the Pacific Ocean, and the Kuroshiwo, or Japanese warm current, which strikes the coast and influences the temperature far into the interior. This Asiatic stream of tropical water is of considerable magnitude, being **400 miles in width,** and has a velocity of about four miles per hour. It has the same effects as the gulf stream of the Atlantic. The north line of Oregon is of the same latitude as central Maine, and yet west of the Cascade Mountains **flowers bloom** out of doors all winter. The Cascade Range makes a wide difference in the temperature of the east and west sections. The range of the thermometer at Portland, near the coast, is from 22 degrees to 96 degrees, while at Baker City, in the extreme eastern part of the state, the range is from 14 degrees below to 101 degrees above; the average temperature for the state, however, is 50 degrees. There are **few, if any,** sections of the state in which cattle or sheep require shelter and extra feeding during the winter months. The bunch grass of the plains **cures itself** into hay on the ground.

The seasons in the west section are divided into **the wet and the dry,** rather than the winter and the summer seasons. The wet season extends from November 15 to March 15, during the greater part of which time **rain falls copiously.** On the immediate coast the precipitation varies from 105 inches, at Gold Beach, in the extreme southwestern part of the state, to 81.96 at Fort Stevens, at the mouth of the Columbia; from fifty-five to sixty-six inches at different points in the Willamette Valley; in eastern Oregon from 75.73 inches, at the Cascade locks, in the gorge of the Columbia, to 9.81 inches at Umatilla; and from fourteen to seventeen inches in the highlands of Lake County, adjoining the California line.

Opportunities in Agriculture and Varied Enterprises

OREGON

Oregon's Natural Advantages, Healthful Climate and Free Land—A Chance for the City Man to Get Back to the Land. Fruit Growing, Wheat and General Farming, Stock Raising, Bee Culture, Poultry Raising, Dairying, Lumbering, Fishing, Mining. Irrigation and "Dry Farming."

From a railroad bulletin we condense the following:

Ever since Lewis and Clark made their famous expedition to the great Northwest—over one hundred years ago—thereby adding territory to our dominions, Oregon has had a magnetic fascination for the conservative Easterner. Rich in opportunity for the farmer, the stockman, the fruit-grower, the merchant and the business man; blessed with fertile plains and forested hills filled with precious metals; resplendent in natural scenery which makes it attractive to the tourist and sightseer, Oregon today offers far more and better opportunities in the twentieth century than in the days of old when the only way to reach her fertile fields was by months of tedious travel in the picturesque prairie schooner.

The history of Oregon has been one of endeavor and achievement — the result of the work of her broad-gauged, public-spirited citizens who, through their co-operative efforts, have made Oregon known the world over.

Torn into two dissimilar parts by physical barriers prior to 1909, the state of Oregon today stands united and presents the golden face of opportunity to the landless man east of the Rocky Mountains. Blood may be thicker than water, but there is no tie so strong as the steel ribbons of modern transportation which unite vast empires and bring widely-separated people and their products together. Central or Eastern Oregon, by stage or ox-cart, was formerly a wearisome seven days' journey from Portland, a longer distance in actual time and convenience than from Chicago to Portland and return by train. Central Oregon had no railroads.

LAND ENOUGH FOR A NEW STATE.

Not so long ago the people of South Central Oregon talked of forming a new state with the people of the northern portion of California, largely because of the lack of modern transportation facilities. They were isolated from the rest of Oregon by jagged mountain ranges and swift rivers. Their neighbor, California, seemed nearer, as climate and crop conditions were similar.

COMING OF THE OREGON TRUNK RAILWAY.

That was yesterday. The new state idea, with yesterday, has passed away. Today, the Oregon Trunk Railway, a modern broad-gauge line, has been rapidly built from Clark, Washington, across the Columbia River and up the Deschutes Valley through the very heart of Central Oregon, and is extending its tracks every hour. The Oregon Trunk Railway (through the Spokane, Portland and Seattle Railway, one of the affiliated connections of the Great Northern Railway) is now connecting Central Oregon with Portland and the world's markets. Central Oregon will be but seven hours from Portland instead of seven days.

The seemingly impassable barrier formed by the Cascades and other high neighboring mountain ranges has been overcome. Central Oregon—the newer, larger portion of the state—is now knit fast forever to Pacific Coast Oregon—the older and better settled part—with Portland and Astoria as ocean ports.

The world's markets are waiting eagerly for Central Oregon's wheat and grain. Western Oregon's fruits are widely known, and have made the word Oregon standard for high quality throughout the world. Today—and this is the twentieth century, when even the United States is getting overcrowded and old—Western Oregon has only been cultivated intensively in spots. Southwestern Oregon is just coming into its own. Northwestern Oregon's dairy products will astonish the country.

Not only has Central Oregon—a territory larger than the state of New York—been opened to the land-hungry world, but whole counties in Northwestern Oregon, like Tillamook, are having electric lines run to and through them, hooking them up with larger commercial centers. All through Oregon new lines of standard steam and electric transportation are being built.

OREGON NEEDS YOU.

Oregon offers an honest opportunity to the sincere man, and is a good place to live. No man need ever move out of Oregon to go to a better place. The climatic, agricultural, educational, religious, social and business advantages are too abundant.

Throughout, Oregon is an attractive country. It has over three hundred miles of coast line on the Pacific Ocean, and mountains, rivers and waterfalls, which add charm to the landscape and also furnish power for industries.

Business in Oregon is built on the natural resources and productive ability of the country; not on speculation. Any legitimate business in Oregon is good, but the business of agriculture is perhaps the best business for a man of ordinary means. Agriculture is the basis of all wealth. A man might perhaps get along without clothes—but he must eat.

Oregon's soil produces good things to eat—so good, that the world pays top prices for the privilege of eating them. Oregon's forests produce timber for houses, factories and ships. Oregon's soil produces grain and forage crops and grasses, which feed thousands of sheep and cattle. Horses, especially blooded, heavy-draft horses, are raised profitably.

Hog raising will line the farmers' pockets. Dairying, poultry raising and bee culture are in their infancy. Oregon makes no pretense of being able to raise everything under the sun on the same acre, but enough of five or ten different crops can be raised on one farm to make the business of farming well worth while. Excepting the most favored fruit soils where, of course, the orchard is the main thing and the land too valuable, stock raising or dairying, and generally both, can be profitably undertaken on almost any arable land in Oregon. Oregon's future is bright indeed.

OREGON'S LOCATION AND LAND AREA.

By states, Washington forms the northern border, California and Nevada the southern, and Idaho the eastern border. The Pacific Ocean is the western boundary. Originally, Oregon's territory embraced what are now four large states; Washington, the lower part of British Columbia, Idaho, and the present state of Oregon.

FREE GOVERNMENT LANDS.

Oregon state is the seventh in size in the Union, having an area in square miles of 94,560; has an average width east and west of 360 miles, and an average length north and south of 260 miles, with a land area of practically 62,000,000 acres. Of this area, 17,580,573 acres is free government land, and 500,000 acres is state school land.

All the 320-acre free homesteads, and most of the 160-acre free homesteads, are located in Central and Southeastern Oregon, and are chiefly in the counties of Crook, Klamath, Lake and Harney. In round numbers the acreage of the 320-acre units not filed on June 20, 1910, in Central Oregon, was 11,000,000, but, of course, new entries are being made every day. Of the total amount of 17,580,573 acres, 13,463,734 are surveyed, but the unsurveyed land can be had by locating and settlement and complying with the simple conditions demanded by the United States Government after the land is surveyed. Of these 17,580,573 acres, however, about 11,600,000 are agricultural and grazing lands; the rest are timbered, mountainous or desert land requiring irrigation.

When a man talks glibly of a million acres of land, even if it is all arable, stop and figure it out. It won't last forever. One million acres, divided into 320-acre sections, makes 3,125 farms, or 6,250 farms of 160 acres each. These Central Oregon homestead lands will raise tremendous crops of wheat, grains, alfalfa, grasses and hardy root crops. They are not by any means all gone, but they are going fast, and once they pass into private ownership, there is no more free land with which to replace them.

STATE SCHOOL LAND.

There are approximately 500,000 acres of state school land in Oregon; most of it is located in Central Oregon. This land may be purchased by any citizen of the United States over eighteen years of age for not less than $7.50 an acre, on time. Not more than 320 acres can be purchased by any one person, but the land need not be all together. There is good state land not far from the Oregon Trunk Railway.

Oregon Opportunities in Agriculture and Varied Enterprises

In the extent of its agricultural, mineral and forest resources, Oregon **ranks very high,** yet its possibilities for development have been only partially realized. The state is largely devoted to agriculture, the western part of the state, especially the Willamette, Umpqua and Rogue River valleys, having the highest cultivated farming lands. On the other hand, eastern Oregon, which has a very fertile volcanic soil, extensive areas of which, in the northeastern part of the state, are **devoted to the raising** of the cereals, mostly wheat, without irrigation, and where the land is too arid for the raising of crops without irrigation, is devoted to stock grazing.

VEGETABLE AND CEREAL CROPS.

The principal farm crops are wheat, hay and forage, oats and potatoes, cereals assorted and green fruits. Wheat in 1900 brought in Oregon 54 cents a bushel, hay and forage about $5.50 per ton, oats about 31 cents a bushel and potatoes 32 cents a bushel. In 1902 wheat brought 52 cents a bushel, and thus prices are liable to fluctuate, but the absolute **certainty** of large crops and their **average** prices relieves the farmer of anxiety in **western** Oregon, while in the **eastern** part of the state, even **without** the heavy rainfall, farmers are getting better returns from their lands by knowing how to **cultivate** the soil. Added to this the government and private companies are arranging to bring to the farms a sufficient water supply. Already the total irrigated area, as far back as 1900, in the state was 388,310 acres, and government surveys have been made for irrigating 60,000 acres in Umatilla county and 90,000 acres in Malheur county.

The mineral resources of the state comprise all the different metals, the value of the output in one of the recent average years being, gold, $1,649,700; silver (coinage value), $149,204; coal, $220,000; borax, $100,000; and stone, $21,663. The value of gold output was increased in the next year to $6,740,000. There are several mining districts in the Cascades, in southern and western Oregon, but the **richest** mineral belts seem to be the three mineral zones of eastern Oregon, which are perhaps as large as any on the American continent. One of these lies partly within the state of Idaho and fringes the eastern boundary of Union, Baker and Malheur counties, and is from **ten to twenty miles** in width. Another zone begins at the Eagle Mountains, northeast of Baker City, is about **fifteen miles in width,** and extends in a southwesterly direction a distance of about sixty-five miles. The third zone has the same general direction, begins in the Elkhorn Mountains, is about twenty miles wide, and extends a distance of 100 miles. The principal districts in eastern Oregon are in these zones, tributary to Baker City and Sumpter.

THE TIMBER REGIONS.

The great **natural resource** of Oregon is its timber, which is located largely on the west side of the Cascade Mountains, where the rainfall is the greatest and the climate mild. The manufacture of this timber into lumber leads all other industries in the value of its output, which in 1900 amounted to $10,352,167. **Large tracts of timber** stand in the Rogue river and Umpqua valleys, and along the Coast range and the Cascades to the Columbia river, as well as a fine body on the east side of the Cascades, at the head of the Des Chutes river, and several other points on the eastern slope of the Cascades, and in the Blue Mountains in the northeastern part. The estimated **standing timber is 225,000,000,000** feet, of which 150,000,000,000 consists of fir. The damage by fire, the indiscriminate waste, and the need of reservoir sites, has induced the government to set aside forest reserves, and 4,500,000 acres along the higher Cascades now constitute the reserves for this state.

From our general description of states the reader will see where government land is yet open for homesteading, but for persons interested in Oregon it is well to get the best and latest railroad maps of the state and then go through to central points and investigate. Examination will show that the interior of the state is yet without much railroad transportation, and with new lines established the lands in those sections must **rapidly increase** in value. This may be judged from the fact that in Baker county farm land is worth from **$20 to $40** an acre, in Vernon county from **$30 to $40** per acre, in Wallowa county from **$8 to $10** per acre.

DIFFERENT PRICES OF LAND.

In Umatilla county improved land brings from **$10 to $40** per acre and stock range land **$1 to $5** per acre. Wheat land in Morrow county ranges from **$6 to $15** per acre, while in Linn county, in the Willamette valley, improved prairie can be had for **$30** an acre and in the foothills at **$5.**

Land seekers should look up the **probable opening** up of new seaports on the Oregon coast, such as Coos Bay and other points in that state facing on the Pacific ocean.

RAILROADS WHICH SERVE CENTRAL OREGON.

The Spokane, Portland and Seattle Railway, popularly known as the North Bank Road, was built from Portland to Spokane and completed in 1909. The North Bank Road not only connects with the Oregon Trunk Railway (Central Oregon's latest agent of development), but also furnishes the Great Northern Railway with a short line from Spokane to Portland.

Portland and Astoria are the two important ocean ports of Oregon. Astoria is at the mouth of the Columbia, at the ocean's edge, and is connected by water grade with Central Oregon via the Astoria and Columbia River Railroad; the North Bank Road (S. P. & S. Ry.) and the Oregon Trunk Railway. These three railroads, in connection with the Great Northern Railway, will give Central Oregon not only local and interstate transportation, but transcontinental and international connections, both rail and ocean. These roads are all broad-gauge, standard railroads.

Through merchandise package cars are run from Portland and other commercial centers to St. Paul, Minneapolis, Chicago, and other large cities in the East.

In the Pacific Northwest special fast fruit trains have been run from fruit-growing sections direct to Eastern markets, and the Great Northern Railway endeavors to help the farmer and fruit-grower market their products to the best advantage by furnishing them such transportation facilities as the growth and development of the community warrant.

No state, happy in a fine climate and a fertile soil, has ever waited long for settlers after the railroads came. The people of Oregon are fully alive to their good fortune and have a keen appreciation of the possibilities of their state. Newcomers are welcomed—for they want and need you in working out their destiny.

MILITARY-ROAD-GRANT LANDS.

One of the greatest obstacles to the development of a large portion of Oregon has been removed, now that what is known as the Military-Road-Grant Lands have been purchased from the French syndicate and put on the market in small tracts. There are 800,000 acres of this land now for sale in Central Oregon, which can be purchased in small tracts, if desired.

Originally, the Willamette Valley and Cascade Mountain Road Corporation built a military and wagon highway from Santiam Pass across the Cascade Range and through Central Oregon in an easterly direction. After this road was built and land grants obtained, various syndicates and corporations repurchased the grants, which were finally secured by the Oregon and Western Colonization Company, of St. Paul, Minn., which is capitalized at $12,000,000. This company has for sale 800,000 acres of land in Crook, Harney and Malheur Counties, which were carefully selected on account of their more than average fertility. The grants allowed the old company to take their pick of the sections along the road. This Central Oregon land is most suitable for wheat and grain-raising, cattle, horse, sheep and hog raising. A special booklet describing these lands will be sent free on request.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude. Highest, Mount Hood, in the Cascade Mountains, in Clackamos County, 11,934 feet; Mount Jefferson, 10,200 feet.

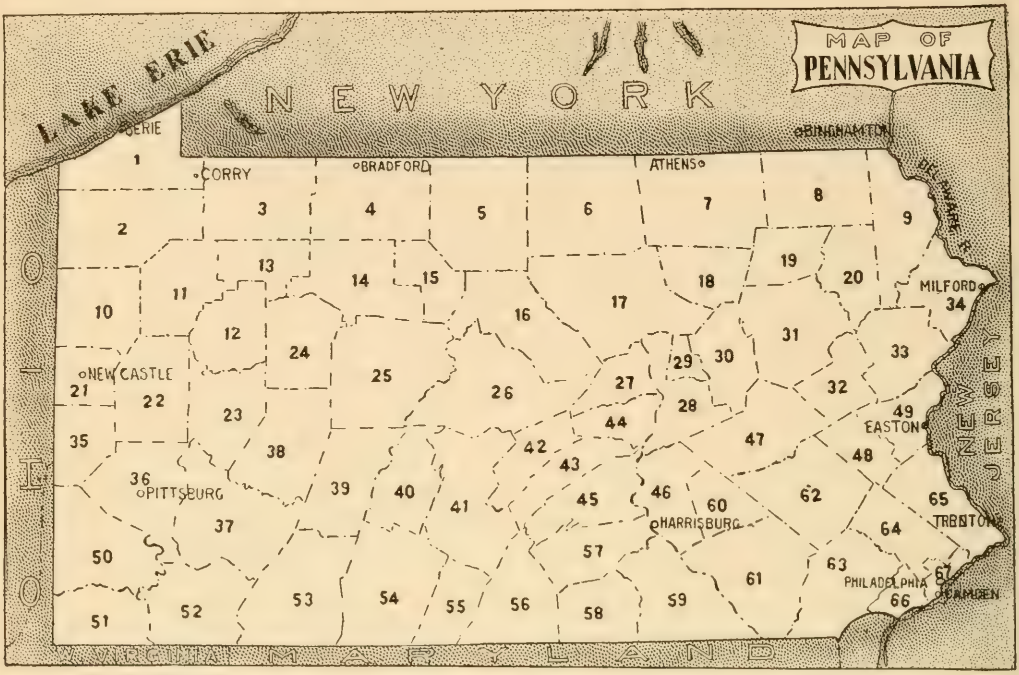
Climate. Varies with localities and elevations. West of the Cascade Mountains, heavy winter rainfall. Average July temperature 67 at Portland; January temperature, 39 above; extreme, 2 below; highest, 102; at Umatilla, Umatilla County, average January, 32; July, 73; extreme, highest, 110; lowest, 24 below; yearly rainfall 9.7 inches; yearly rainfall at Portland, 46.8 inches.

Dimensions. Extreme length, north and south, 290 miles; extreme width, east and west, 375 miles. Area of state, 96,030 square miles. Columbia river on north side of Oregon extends 300 miles. Portland located on Willamette river, twelve miles from its junction with the Columbia and 110 miles from the ocean.

History. Visited by Drake in 1558; mouth of Columbia River explored by Captain Gray, 1792; visited by Lewis and Clarke, 1804-5; trading post founded at Astoria, 1811; Oregon Territory, including present states of Washington and Idaho, organized 1848. Admitted to Union 1859.

STATE AND THE 67 COUNTIES OF PENNSYLVANIA

With Their Boundaries



LOCATION AND 1910 POPULATION OF PENNSYLVANIA COUNTIES.

Loca.	County	Pop.
1	Erie	115,517
2	Crawford	61,565
3	Warren	39,573
4	McKean	47,868
5	Potter	29,729
6	Tioga	42,829
7	Bradford	54,526
8	Susquehanna	37,716
9	Wayne	29,236
10	Mercer	77,699
11	Venango	56,359
12	Clarion	36,638
13	Forest	9,435
14	Elk	35,871
15	Cameron	7,644
16	Clinton	31,545
17	Lycoming	80,813
18	Sullivan	11,293
19	Wyoming	15,509
20	Lackawanna	259,570
21	Lawrence	70,032
22	Butler	72,689
23	Armstrong	67,880
24	Jefferson	63,090
25	Clearfield	93,768
26	Center	43,724
27	Union	16,249
28	Northumberland	111,420
29	Montour	14,868
30	Columbia	48,467
31	Luzerne	343,180
32	Carbon	52,856
33	Monroe	22,941
34	Pike	29,729
35	Beaver	78,353
36	Allegheny	1,018,463
37	Westmoreland	231,304
38	Indiana	66,210
39	Cambria	166,131
40	Blair	108,858
41	Huntingdon	38,304
42	Mifflin	27,785
43	Juniata	15,013
44	Snyder	16,800
45	Perry	24,136
46	Dauphin	136,152
47	Schuylkill	207,894
48	Lehigh	188,832
49	**Northampton**	127,667
50	Washington	143,680
51	Greene	28,882
52	Fayette	167,449
53	Somerset	67,717
54	Bedford	38,879
55	Fulton	9,703
56	Franklin	59,775
57	Cumberland	54,479
58	Adams	34,319
59	York	136,405
60	Lebanon	59,565
61	Lancaster	167,029
62	Berks	183,222
63	Chester	109,213
64	Delaware	117,906
65	Montgomery	169,590
66	Bucks	76,530
67	Philadelphia	1,549,008
	Total	7,665,111

Pennsylvania Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
Aaronsburg	26	309
Abbottstown	58	402
Abington	65	409
Academia	43	240
Ache Junction	52	200
Ackermanville	49	352
Acosta	53	202
Adah	52	506
Adamsburg	37	366
Adamstown	61	675
Adamsville	2	262
Addison	53	225
Adelaide	52	526
Adrian Mines	24	209
Aitch	41	202
Akron	61	719
Albion	1	1,534
Alburtis	48	909
Aldan	64	661
Alden Station	31	262
Alderson	31	420
Alexandria	41	432
Aliquippa	35	1,741
Allen	57	350
Allenport	50	1,502
Allens Mills	24	202
Allensville	42	285
*Allentown	48	51,913
Allenwood	27	305
Allison Park	36	350
Allport	25	406
Almedia	30	208
Alton	4	380
Altoona	40	52,127
Alum Bank	54	218
Alverton	37	662
Ambersons Valley	56	450
Ambler	65	2,649
Ambridge	35	5,205
Amity	50	250
Amityville	62	231
Amsbry	39	200
Anandale Station	22	209
Andalusia	66	303
Anita	24	3,065
Annville	60	1,283
Ansonville	25	450
Antes Fort	17	256
Antrim	6	1,506

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Pennsylvania Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Apollo	23	3,006
Appewold	23	300
Aquashicola	32	302
Aram	58	250
Arcadia	38	1,402
Archbald	20	7,194
Ardara	37	409
Arden	50	409
Ardmore	65	3,502
Arendtsville	58	383
Argentine	22	506
Aristes	30	406
Arnold	37	1,818
Arnot	6	3,508
Arona	37	683
Arrow	53	300
Arroyo	14	209
Artz	47	302
Ashbourne	65	650
Asherton	28	202
Ashland	47	6,855
Ashley	31	5,691
Ashville	39	384
Askam	31	686
Aspinwall	36	2,592
Aston Mills	64	429
Atglen	63	546
Athens	7	3,796
Atlantic	2	202
Atlas	28	1,060
Attleboro	66	514
Auburn	47	921
Audenried	32	5,092
Aughwick Mills	41	526
Austin	5	2,941
Avalon	36	4,317
Avella	50	506
Avis	16	796
Avoca	31	4,634
Avon	60	402
Avondale	66	668
Avonia	1	262
Avonmore	37	1,262
Axemann	26	226
B		
Bachmanville	46	260
Baden	35	601
Baggaley	37	1,022
Bainbridge	61	862
Baird	50	326
Bakers	37	528
Bakers Summit	54	200
Bakerstown	36	326
Bakerton	39	1,026
Bald Eagle	40	302
Bangor	49	5,368
Banksville	36	1,302
Banning	52	206
Barbara	40	200
Barclay	7	506
Bardwell	19	220
Bareville	61	213
Barnes	3	350
Barnesboro	39	3,535
Barnesville	47	222
Barree	41	237
Bart	61	213
Bartonsville	33	247
Bartville	61	204
Bath	49	1,057
Beach Haven	31	462
Beachlake	9	250
Beachly	53	226
Beadling	36	726
Beallsville	50	407
Bear Lake	3	221
*Beaver	35	3,456
Beaverdale	39	1,202
Beaver Falls	35	12,191
Beaver Meadows	32	1,530
Beavertown	44	820
Beaver Valley	30	560
Bechtelsville	62	417
Beckersville	62	250
*Bedford	54	2,235
Beechcliff	26	320
Beech Creek	16	584
Beechview	36	1,520
Belfast	49	360
*Bellefonte	26	4,145
Belle Vernon	52	2,372
Belleville	42	420
Bellevue	36	6,323
Bells Landing	25	226
Bellwood	40	2,277
Belsano	39	226
Belsena Mills	25	228
Ben Avon	36	1,828
Bendersville	58	355
Benezett	14	490
Bennington Furnace	40	202
Bens Creek	39	306
Benson	53	387
Bentleyville	50	1,922
Benton	30	719
Berlin	53	1,336
Berlinsville	49	406
Bernice	18	666
Bernville	62	308
Berrysburg	46	377
Berwick	30	5,357
Berwick	58	332
Berwyn	63	1,066
Bessemer	21	560
Bethayres	65	350
Bethlehem	49	12,837
Bigler	25	466
Biglerville	58	386
Big Run	24	1,032
Bingen	49	206
Binkley	61	250
Bird in Hand	61	250
Birdsboro	62	2,930
Birdville	36	202
Bishop	50	509
Bismarck	60	575
Bitumen	16	426
Blackhorse	63	321
Black Lick	38	1,500
Blacklog	43	202
Blackwells	6	250
Blain	45	326
Blain City	25	534
Blair Station	36	466
Blairsville	38	3,572
Blakeslee	33	220
Blakely	20	5,345
Blandburg	39	1,802
Blandon	62	508
Bloomfield	2	762
Bloomfield Junction	45	772
Bloomingdale	31	260
Blooming Glen	66	320
*Bloomsburg	30	7,413
Blossburg	6	2,303
Blue Ball	61	202
Blue Ball	25	525
Blythedale	36	866
Boalsburg	26	328
Bodines	17	200
Boiling Springs	57	562
Bolivar	37	518
Boston	36	826
Boswell	53	1,878
Bowers	62	226
Bowmansdale	57	238
Bowmanstown	32	408
Bowmansville	61	250
Boyers	22	236
Boyertown	62	2,433
Bracken	39	460
Brackenridge	36	3,134
Braddock	36	19,357
Bradenville	37	1,010
Bradford	4	14,544
Brady	12	1,493
Bradys Bend	23	562
Braeburn	37	233
Branch	37	408
Branch Dale	47	750
Brandonville	47	222
Brandt	8	436
Brandyvine Summit	64	226
Brent	10	236
Breslau	31	220
Briar Creek	30	5,512
Brickerville	61	236
Bridgeport	65	3,860
Bridgeton	66	250
Bridgeton	59	506
Bridgeville	36	1,983
Bridgewater	35	1,562
Brighton	35	8,329
Brinton	36	426
Brisbin	25	459
Bristol	66	9,256
Broad Ford	52	526
Broadtop	41	478
Brockport	14	315
Brockton	47	362
Brockwayville	24	1,898
Brodheadsville	33	554
Brooklyn	8	320
Brookston	13	502
*Brookville	24	3,003
Broughton	36	2,066
Brownfield	52	1,522
Brownstown	39	1,336
Brownstown	61	626
Brownsville	62	236
Brownsville	52	2,324
Bruceton	36	562
Bruin	22	539
Brumfieldville	62	317
Brunnerville	61	509
Bryn Mawr	65	3,026
Buckglen	30	220
Buck Mountain	47	330
Buena Vista	36	620
Buffalo Mills	54	236
Bulger	50	1,206
Bunola	36	330
Burdine	36	366
Burgettstown	50	1,268
Burnham	42	766
Burnside	25	493
Bute	52	1,222
*Butler	22	20,728
Buttonwood	17	236
Butztown	49	226
Byers	63	262
Byrnedale	14	630
C		
Cabot	22	200
Caledonia	14	260
California	50	2,230
Callensburg	12	203
Callery	22	335
Calumet	37	508
Cambridge Springs	2	1,514
Camden	36	326
Cameron	15	320
Cammal	17	760
Campbelltown	60	275
Camp Hill	57	875
Camptown	7	225
Canadensis	33	250
Candor	50	262
Cannelton	35	320
Canoe Run	15	362
Canonsburg	50	3,891
Canton	7	1,637
Carbon	37	601
Carbondale	20	17,040
Cardiff Mines	14	301
Cardington	64	409
*Carlisle	57	10,303
Carmichaels	51	478
Carnegie	36	10,009
Carnot	36	209
Carr	22	290
Carrick	36	6,117
Carrolltown	39	1,343
Carter	22	3,548
Cartwright	14	1,096
Carverton	31	266
Cassandra	39	306
Castle Shannon	36	2,526
Catasauqua	48	5,250
Catawissa	30	1,930
Catfish	12	220
Cato	26	301
Cayuga	20	250
Cecil	50	1,506
Cedarville	63	201
Celia	35	202
Cementon	48	1,802
Center Hall	26	506
Center Square	65	320
Center Valley	48	550
Centerville	50	1,413
Centerville	2	264
Centerville	44	261
Central	30	2,429
Centralia	30	2,048
Cetronia	48	280
Chadds Ford	64	308
Chalfort	66	303
*Chambersburg	56	11,802
Chambersville	38	662
Chandlers Valley	3	202
Chapman	44	319
Chapman Quarries	49	253
Charleroi	50	9,615
Cheat Haven	52	220
Cheltenham	65	426
Cherry Run	12	250
Cherry Tree	38	439
Cherry Valley	50	1,401
Cherryville	49	302
Chester	64	38,537
Chester Hill	25	648
Cheswick	36	317
Chewton	21	301
Cheyney	64	232
Chickies	61	253
Chicora	22	1,103
Chinchilla	20	252
Choconut	8	251
Christiana	61	934
Churchtown	61	301
Churchville	66	202
Clairton	36	3,326
Clarendon	3	933
Claridge	37	2,011
Clarington	13	402
*Clarion	12	2,612
Clarksville	51	208
Clarksville	10	216
Claussville	48	322
Claysburg	40	203
Claysville	50	1,045
Clayton	62	317
Claytonia	22	252
*Clearfield	25	6,851
Clermont	4	301
Clifford	8	202
Clifton	36	301
Clifton Heights	64	3,155
Clinton	36	302
Clinton	9	251
Clintonville	11	335
Cleo	24	202
Clymer	38	1,753
Coal Bluff	50	503
Coal Center	50	816
Coal Castle	47	201
Coaldale	54	311
Coaldale	47	5,154
Coal Glen	24	302
Coalmont	41	228
Coalport	32	3,548
Coalport	25	876
Coalridge	31	203
Coalrun	53	251
Coal Valley	36	252
Coatesville	63	11,084
Coburn	26	201
Cochranton	2	695
Cochranville	63	253
Codorus	59	379
Coffeetown	49	502
Cogan House	17	401
Cogan Station	17	203
Cohn	27	204
Cokeburg	50	1,302
Cokeville	37	409
Colebrookdale Station	62	251
Coleburg	5	203
College Hill	35	1,787
Collegeville	65	627
Collingdale	64	1,361
Colona	35	1,003
Columbia	61	11,454
Columbia Cross Roads	7	203
Columbus	3	346
Colwyn	64	1,584
Concordville	64	400
Conestoga	61	602
Confluence	53	891
Conifer	24	302
Conneaut Lake	2	725
Conneautville	2	921
Conneautville Station	2	867
Connellsville	52	12,845
Conoquenessing	22	402
Conrad	5	361
Conshohocken	65	7,480
Conway	35	1,483
Conyngham	31	406
Coopersburg	48	623
Coplay	48	2,671
Coral	38	702
Coraopolis	36	5,252
Cornplanter	3	202
Cornwall	60	2,602
Cornwells	66	241
Corry	1	5,991
Corsica	24	301
Cortez	20	202
Corydon	3	502
Coryville	4	302
Costello	5	1,201

Pennsylvania Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
*Coudersport	5	3,100
Coulters	36	501
Courtdale	31	549
Courtney	50	601
Covington	6	340
Covode	38	202
Cowanesque	6	321
Cowanshannoc	23	201
Cowansville	23	202
Crabtree	37	1,501
Crafton	36	4,583
Craigsville	23	275
Cranesville	1	651
Creasy	30	601
Creekside	38	563
Creighton	36	602
Crenshaw	24	401
Cresco	33	202
Cressman	66	301
Cresson	39	1,470
Cressona	47	1,837
Cross Fork	5	801
Crossland	52	802
Crum Lynne	64	601
Cumbola	47	367
Curry Run	25	201
Curwensville	25	2,549
Custer City	4	201
Cymbria Mines	39	301
D		
Daguscahonda	14	202
Dagus Mines	14	801
Dahoga	14	202
Daisytown	39	382
Dale	39	2,285
Daleville	20	251
Dallas	31	576
Dallastown	59	1,884
Dalmatia	28	347
Dalton	20	767
Danielsville	49	1,002
*Danville	29	7,517
Darby	64	6,305
Darlington	35	311
Darragh	37	1,502
Dauphin	46	545
Dawson	52	848
Dayton	23	809
Dean	39	373
Deegan	22	401
Deemston	50	477
Defiance	54	325
Delancy	39	1,003
Delano	47	1,362
Delaware Water Gap	33	446
Delmont	37	502
Delta	59	881
Dents Run	14	403
Denver	61	933
Deodate	46	202
Derrick City	4	202
Derry	37	2,954
Derry Church	46	251
Desire	24	502
Devon	63	301
Dewart	28	251
De Young	14	302
Diamondville	38	202
Dickerson Run	52	501
Dickinson	57	801
Dickson	20	9,331
Dickson City	20	4,948
Dillsburg	59	853
Dingmans Ferry	34	351
Dixmont	36	1,201
Doe Run	63	251
Donaldson	47	958
Donora	50	8,174
Dormont	36	1,115
Dorranceton	31	4,046
Dorseyville	36	501
Dover	59	576
Downieville	22	201
Downingtown	63	3,326
*Doylestown	66	3,304
Dravosburg	36	1,895
Drehersville	47	414
Dresher	65	201
Drifton	31	2,301
Driftwood	15	517
Drums	31	901
Dry Run	56	765
Dublin	66	361
Dubois	25	12,623
Duboistown	17	682
Dudley	41	441
Duke Center	4	601
Dunbar	52	1,971
Duncannon	45	1,474
Duncansville	40	1,263
Dunkard	51	201
Dunlevy	50	301
Dunlo	39	2,501
Dunmore	20	17,615
Dupont	31	201
Duquesne	36	15,727
Durham	66	201
Duryea	31	7,434
Dushore	18	813
Dutch Hill	12	251
Dysart	39	201
E		
Earlston	54	501
Eagleville	26	551
Earlville	62	301
East Altoona	40	1,202
East Bangor	49	1,186
East Bellevue	36	251
East Benton	20	202
East Berlin	58	672
East Brady	12	1,493
Eastbrook	21	201
East Butler	22	501
East Conemaugh	39	5,046
East Coventry	63	301
East Hickory	13	350
East Downington	63	3,006
East Freedom	40	327
East Greenville	65	1,235
East Hanover	60	331
East McKeesport	36	2,118
East Mauch Chunk	32	3,548
East Nantmeal	63	201
East New Castle	21	200
*Easton	49	28,523
East Petersburg	61	602
East Pittsburg	36	5,615
East Prospect	59	316
East Rochester	35	718
East Salisbury	53	1,202
East Side	25	220
East Smithfield	7	301
East Springfield	1	348
East Stroudsburg	33	3,330
East Texas	48	303
East Titusville	2	201
Eastvale	35	322
East Vandercrift	37	1,852
East Washington	50	1,300
East Waynesburg	51	906
Eau Claire	22	347
*Ebensburg	39	1,978
Ebenvale	31	567
Eclipse	50	501
Economy	35	1,204
Eddington	66	201
Eddystone	64	1,167
Edenborn	52	1,201
Edenburg	12	616
Edge Hill	65	651
Edgewood	36	2,596
Edgewood Park	36	1,139
Edgeworth	36	1,229
Edinboro	1	666
Edinburg	21	351
Edri	38	502
Edwardville	31	8,407
Egypt	48	1,002
Ehrenfeld	39	401
Elbon	14	301
Elco	50	944
Elderton	23	285
El Dorado	40	304
Eldred	4	1,235
Eleanor	24	505
Elimsport	17	401
Elizabeth	36	2,311
Elizabethtown	61	2,587
Elizabethville	46	1,039
Elkhorn	36	201
Elk Lake	8	201
Elkland	6	1,175
Elk Lick	53	1,201
Elliotts Mill	21	501
Ellsworth	50	2,084
Ellwood City	21	3,902
Elmer	5	201
Elmhurst	20	379
Elrama	50	204
Elroy	65	251
Elton	39	250
Elverson	63	351
Elysburg	28	202
Emaus	48	3,501
Emeigh	39	401
Emerald	48	203
Emigsville	59	201
Emlenton	11	1,110
*Emporium	15	2,916
Emsworth	36	1,510
Endeavor	13	402
English Center	17	701
Enhaut	46	452
Enon Valley	21	354
Enterprise	3	616
Ephrata	61	3,192
Epton	36	301
Equinunk	9	402
Erdon	39	902
*Erie	1	66,525
Ernest	38	1,002
Eshbach	62	202
Espy	30	551
Etna	36	5,830
Etters	59	434
Euclid	22	201
Evansburg	22	1,339
Evans City	22	1,501
Everett	54	1,725
Everson	52	1,759
Ewingville	36	351
Excelsior	28	1,601
Exchange	29	251
Exeter	31	3,537
Exeter Borough	31	1,948
Expedit	39	1,502
Export	37	3,002
Eynon	20	351
F		
Factoryville	19	759
Fairbank	52	403
Fairchance	52	1,762
Fairdale	8	403
Fairfield	58	373
Fairhaven	36	801
Fairhope	53	565
Fairmount City	12	702
Fairoaks	36	302
Fairview	1	349
Fairview Station	1	201
Fallentimber	39	204
Falling Springs	45	872
Falls Creek	25	1,204
Fallsington	66	301
Fallston	35	555
Falmouth	61	210
Fannettsburg	56	316
Farmersville	61	366
Farrandsville	16	351
Fawn Grove	59	249
Fayette City	52	2,005
Fayetteville	56	601
Feasterville	66	201
Federal	36	1,003
Felton	59	241
Ferndale	66	224
Ferndale	39	514
Fernwood	64	803
Fernwood	25	251
Ferris	22	201
Fieldmore Springs	2	206
Fields Station	17	201
Filer	10	201
Finleyville	50	644
Fisher	12	203
Fishers Ferry	28	201
Fishing Creek	30	223
Fitzwatertown	65	318
Fivepoints	10	201
Fleetville	20	253
Fleetwood	62	1,394
Fleming	26	343
Flemington	16	1,022
Floreffe	36	501
Florence	50	325
Florenza	24	501
Florin	61	804
Flourtown	65	502
Floyd	11	225
Fogelsville	48	401
Fontana	60	202
Footedale	52	801
Forbes Road	37	401
Force	14	351
Ford City	23	4,850
Fordham	24	607
Forest City	8	5,749
Forest Lake	8	251
Forkston	19	261
Fort Hunter	46	625
Fort Loudon	56	322
Fort Pitt	36	350
Fort Washington	65	601
Fortyfort	31	2,353
Foster	8	364
Fountain Dale	58	251
Fountain Hill	48	1,388
Foxburg	12	578
Frackville	47	3,118
Frank	36	502
*Franklin	11	9,767
Franklin	39	2,102
Franklin Corners	1	201
Franklintown	59	216
Frankstown	40	201
Fredell	12	301
Frederick	65	254
Fredericksburg	60	612
Fredericktown	50	1,006
Fredonia	10	443
Freeburg	44	541
Freed	52	304
Freedom	35	3,060
Freeland	31	6,197
Freemansburg	28	867
Freeport	23	2,248
Frenchville	25	221
Friedens	53	301
Friedensburg	62	514
Friedensburg	47	603
Frostburg	24	402
Fryburg	12	302
Fullerton	48	752
G		
Gaines	6	1,002
Galeton	5	4,027
Gallatin	36	301
Gallitzin	39	3,504
Gans	52	202
Gap	61	802
Gardenville	66	201
Garland	3	302
Garrett	53	848
Garrettford	64	216
Gascola	36	402
Gastonville	50	503
Gates	52	402
Gayesport	40	917
Gazzam	25	252
Geigers Mills	62	325
Geigertown	62	325
Gelatt	8	303
Genesee	5	351
Geneva	2	236
Georgetown	35	269
Germania	5	302
*Gettysburg	58	4,030
Gibraltar	62	401
Gibson	8	251
Gibsonton	37	303
Gilberton	47	5,401
Gilbertsville	65	502
Gillespie	52	1,002
Gillett	7	204
Gipsy	38	302
Girard	1	1,165
Girard Manor	47	204
Girardville	47	4,396
Gladden	36	301
Gladdens	53	401
Glade Mills	22	301
Gladerun	3	604
Gladwine	65	1,202
Glasgow	39	203
Glasgow	35	201
Glassmere	36	1,204
Glassport	36	5,540
Gleasonton	16	492
Glenburn	20	319
Glen Campbell	38	1,099
Glendale	36	502
Glendon	49	823
Glenfield	36	984
Glenhazel	14	504
Glenhope	25	237
Glenlyon	31	2,255
Glen Mills	64	278
Glen Olden	64	1,157

Pennsylvania Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Glen Richey	25	527
Glen Riddle	64	325
Glen Rock	59	1,263
Glenside	65	1,801
Glenwhite	40	201
Glenwillard	36	401
Globe Mills	44	350
Godfrey	23	662
Goldsboro	59	434
Goodville	61	201
Gordon	47	1,185
Gordonville	61	401
Gouldsboro	9	251
Gowen	31	503
Gowen City	28	304
Gracedale	31	301
Graceton	38	701
Grampean	25	666
Grand Tunnel	31	201
Grand Valley	3	290
Grandville	42	200
Grassflat	25	1,002
Gratz	46	536
Gratztown	37	201
Gray	17	202
Grays Landing	52	1,003
Great Bend	8	788
Greeley	34	201
Greencastle	56	1,919
Greene	61	203
Greenfield	10	302
Green Lane	65	372
Greenock	36	751
Greensboro	51	442
*Greensburg	37	13,012
Greentree	36	1,143
Green Village	56	207
Greenville	10	5,909
Greenwood	7	302
Greythorne	57	251
Grill	62	201
Grindstone	52	501
Grovania	29	202
Grove City	10	3,674
Grovedale	36	3,134
Grover	7	301
Groveton	36	391
Gulf Mills	65	801
Guthriesville	63	217
Guths Station	48	301
Guys Mills	7	301
H		
Haas	47	251
Hackett	50	501
Hadley	10	302
Hagersville	66	301
Hahnstown	37	1,001
Halifax	46	745
Hallam	59	472
Hallstead	8	1,538
Hallton	44	501
Hamburg	62	2,301
Hamill	38	202
Hamilton No. 1	53	201
Hamlin	9	201
Hammett	1	402
Hannastown	37	801
Hanover	59	7,057
Hanover Junction	59	201
Harford	8	301
Harlansburg	21	252
Harleigh	31	544
Harleysville	65	351
Harmarville	36	772
Harmony	22	673
Harrisburg (capital)	46	64,186
Harrison City	37	247
Harrison Valley	5	691
Harrisville	22	352
Harrold	14	1,004
Hartley	59	250
Harveys	51	251
Harveyville	31	278
Hastings	39	2,125
Hatboro	65	962
Hatfield	65	705
Hauto	32	501
Haverford	65	581
Hawk Run	25	688
Hawley	9	2,018
Hawthorn	12	569
Hays	36	1,888
Haynie	12	201
Hazeldell	21	1,168
Hazel Hurst	4	1,003
Hazelkirk	50	502
Hazelton	31	25,452
Hazzard	50	301
Hecktown	49	201
Hecla	37	1,501
Hegins	47	325
Heidelberg	36	1,848
Heidlersburg	58	301
Heilwood	38	1,001
Helfenstein	47	201
Hellam	59	301
Hellertown	49	915
Helvetia	25	201
Hepburn	17	769
Herminie	37	801
Herndon	28	621
Herrickville	7	275
Herrville	61	201
Hershey	46	351
Hetlerville	30	251
Hickman	36	501
Hickory	50	205
Hickory	13	351
Hicks Run	15	301
High Spire	46	1,669
Hillards	22	201
Hillsdale	38	401
Hillsgrove	18	805
Hillsville	21	201
Hites	36	301
Hites	53	301
Hoboken	36	702
Hokendauqua	48	802
Holden	24	301
*Hollidaysburg	40	3,734
Hollisterville	9	301
Hollsopple	53	451
Holtz	59	202
Homer City	38	985
Homestead	36	18,713
Homewood	35	201
*Honesdale	9	2,945
Honey Brook	63	581
Honey Grove	43	251
Honor	21	201
Hookstown	35	250
Hoopeston	65	251
Hooversville	53	991
Hop Bottom	8	364
Hopeland	61	201
Hopewell	54	592
Hopwood	52	801
Horatio	24	1,002
Horsham	65	213
Hostetter	37	801
Houston	50	793
Houtzdale	25	1,434
Howard	26	667
Hoytdale	35	402
Hoytville	6	561
Hudson	31	2,001
Huey	12	252
Huffs Station	37	651
Hughstown	31	2,024
Hughesville	17	1,650
Hull	5	361
Hulmeville	66	468
Hulton	36	3,436
Humbert	53	301
Hummelstown	46	2,128
Hunlock Creek	31	521
*Huntingdon	41	6,861
Huntingdon Valley	65	251
Huntington Mills	31	351
Huntsdale	57	301
Hutchins	4	201
Hyde	25	251
Hyde Park	37	315
Hydetown	2	413
Hyndman	54	1,164
Hyner	16	214
I		
Ickesburg	45	408
Idamar	38	801
Idlepark	37	201
Ifield	52	691
Imperial	36	802
Independence	50	251
*Indiana	38	5,749
Indian Creek	52	201
Industry	35	664
Ingram	36	2,037
Inkerman	31	501
Instanter	14	401
Intercourse	61	313
Irish Ripple	21	301
Ironbridge	65	231
Ironton	48	202
Irvine	3	238
Irvineton	3	238
Irvona	25	802
Irwin	37	2,886
Iselin	38	2,001
Ivanhoe	50	501
Ivyland	66	247
J		
Jackson	8	251
Jackson Center	10	269
Jacksonville	48	252
Jacksonville	37	502
Jacobs Creek	37	252
Jacobus	59	261
James City	14	451
James Creek	41	211
Jamestown	39	501
Jamestown	10	822
Jamison City	30	501
Jarrettown	65	201
Jeanesville	31	1,201
Jeannette	37	8,077
Jeddo	31	377
Jefferson	51	357
Jefferson	59	347
Jeffersonville	65	374
Jenkintown	65	2,968
Jenners	53	1,637
Jenningsville	19	201
Jermyn	20	3,158
Jerome	53	1,002
Jersey Mills	17	401
Jersey Shore	17	5,381
Jerseytown	30	201
Joanna	62	502
Job	36	402
Johnetta	23	662
Johnsonburg	14	4,334
Johnstown	39	55,482
Johnsville	66	201
Joliett	47	203
Jones Station	36	302
Jonestown	60	603
Josephine	38	1,501
Julian	26	201
Jumonville	52	351
Juniata	40	5,285
Juniataville	52	751
Justus	20	201
K		
Kane	4	6,626
Kaneville	11	201
Kantner	52	301
Karns City	35	283
Karthaus	25	701
Kauffman	26	1,201
Kaler	23	2,501
Kearney	54	202
Keating Summit	5	201
Keeneyville	6	225
Keffers	47	202
Weister Works	52	1,202
Kelayres	47	1,501
Kellettvile	13	429
Kelley Station	23	202
Kemblesville	63	208
Kenilworth	63	302
Kennett	52	2,049
Kennett Square	63	2,049
Keown	36	202
Kersey	14	602
Kifertown	52	201
Kimberton	63	203
Kimmelton	53	201
Kingsley	8	201
Kingston	31	6,449
Kinzua	3	1,236
Kirkwood	61	201
*Kittanning	23	4,311
Knapp	6	246
Knights	37	501
Knox	12	901
Knox Dale	24	301
Knoxville	36	5,652
Knoxville	6	842
Kratzerville	44	201
Kresgeville	33	201
Kulpsville	65	325
Kunkletown	33	202
Kushequa	4	502
Kutztown	62	2,368
Kylertown	25	401
L		
La Bele	52	1,001
Laboratory	50	201
Laceyville	19	479
Lackawaxen	34	501
Ladona	5	202
Lafayette Hill	65	502
Laflin	31	528
Lahaska	66	202
Lairdsvile	17	301
La Jose	25	354
Lake Ariel	9	401
Lake Como	9	201
Lakemont	40	1,202
Lamar	16	225
Lamberton	52	602
Lambs Creek	6	201
Lampeter	61	401
*Lancaster	61	47,227
Landenberg	63	701
Lander	3	301
Landingville	47	268
Landisburg	45	252
Landis Valley	61	251
Landisville	61	601
Landrus	6	501
Landstreet	53	200
Lanesboro	8	771
Langhorne	66	895
Lansdale	65	3,551
Lansdowne	64	4,066
Lanse	25	501
Lansford	32	8,321
Laplume	20	258
*Laporte	18	245
Laquin	7	201
Large	36	301
Larimer	37	1,501
Larksville	31	9,288
Larrys Creek	17	308
Lash	37	252
Latrobe	37	8,777
Lattimer Mines	31	1,051
Laurel Run	31	791
Laurelton	27	307
Laurys Station	48	202
Lavelle	47	602
Lawn	60	201
Lawrenceville	6	549
Layton	52	301
Leacock	61	351
*Lebanon	60	19,241
Leckrone	52	501
Lecontes Mills	25	301
Leechburg	23	3,624
Leeper	12	251
Leesburg	10	201
Lees Cross Roads	57	418
Leesport	62	1,801
Leetonia	6	302
Leetsdale	36	1,904
Lehighton	32	5,316
Lehman	31	202
Leith	52	851
Lemont Furnace	52	1,101
Lemoyne	57	1,393
Lenni Mills	64	483
Leolyn	6	202
Le Raysville	7	326
Lewisberry	59	233
*Lewisburg	27	3,081
Lewis Run	4	502
*Lewistown	42	8,166
Lewisville	63	302
Lewisville	5	579
Lexington	61	301
Liberty	6	253
Lichty	62	201
Lickdale	60	227
Lickingville	12	302
Light Street	30	301
Ligonier	37	1,575
Lilly	39	1,638
Lima	64	507
Limerick	65	401
Lime Ridge	30	401
Limestone	12	251
Lincoln	61	451
Lincoln Place	36	1,002
Lincoln University	63	302
Lincolnville	2	251
Linden	17	351
Line Lexington	66	501
Linesvile	2	833
Linfield	65	402
Linglestown	46	702
Linwood Station	64	902
Lionville	63	252
Listie	53	502
Listonburg	53	251
Lititz	61	2,082
Little Britain	61	201
Little Gap	32	201

Pennsylvania Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Little Marsch	6	225
Littlestown	58	1,347
Liverpool	45	596
Llanerch	64	201
Llanwellyn	64	401
Llewellyn	47	501
Lloydell	39	801
*Lock Haven	16	7,772
Locustdale	47	1,001
Locust Gap	28	1,701
Lofty	47	201
Logans Ferry	36	202
Loganton	16	375
Loganville	59	298
Loleta	14	201
Long Branch	50	273
Longswamp	62	202
Lookout	9	301
Lopez	18	1,202
Lorberry Junction	47	302
Loretto	39	246
Lost Creek	47	1,501
Lottsville	3	201
Lovejoy	38	401
Lowber	37	701
Lower Providenc	65	212
Loyalhanna	37	901
Loyalsock	17	817
Loysburg	54	308
Lucinda	12	301
Ludlow	4	701
Lumber City	25	363
Lumberville	66	251
Luthersburg	25	364
Luxor	37	201
Luzerne	31	5,426
Lykens	46	2,943
Lynch	36	1,978
Lyndora	22	3,001
Lyon Station	62	537
M		
McAdoo	47	3,389
McAlisterville	43	556
McCall Ferry	61	501
McCance	37	526
McClellandtown	52	801
McClure	44	201
*McConnellsburg	55	579
McConnellstown	41	308
McDonald	50	2,543
McElhattan	16	247
McEwensville	28	209
McGees Mills	25	251
McKean	1	351
McKeansburg	47	317
McKees Half Falls	44	251
McKeesport	36	42,694
McKees Rocks	36	14,702
McKinley	65	602
McLaughlin	36	225
McLeans	65	664
McMahon	37	813
McSherrystown	58	1,724
McSparran	61	201
McVeytown	42	514
McVeytown Station	42	215
Macbeth	53	1,001
Macungie	48	772
Madeline	38	301
Madera	25	1,201
Madison	37	421
Mahaffy	25	754
Mahanoy City	47	15,936
Mahanoy Planc	47	1,801
Mahoning	23	201
Mainville	30	601
Maltby	31	301
Malvern	63	1,125
Mammoth	37	1,001
Manchester	59	547
Manheim	61	2,202
Manns Choice	54	341
Manoa	64	501
Manor	37	1,039
Manorville	23	545
Manown	36	501
Mansfield	6	1,645
Mapleton Depot	41	752
Maplewood	9	201
Marcus Hook	64	1,573
Marguerite	37	501
Marianna	50	1,363
Marienville	13	1,201
Marietta	61	2,079
Marion	56	254
Marion Center	38	366
Marion Heights	28	1,562
Markelsville	45	251
Markelsburg	41	211
Markleysburg	52	227
Mars	22	1,215
Marshalls Creek	33	224
Marshallton	63	501
Marshwood	20	351
Marsteller	39	1,001
Martin	52	801
Martinsburg	40	921
Martins Creek	49	301
Marysville	45	1,693
Masontown	52	891
Masten	17	301
Matamoras	34	1,388
Mattawana	42	215
*Mauch Chunk	32	3,952
Maud	66	241
Maxatawny	60	201
Mayburg	13	201
Mayfield	20	3,662
Maytown	61	702
Meadowbrook	65	251
Meadow Lands	50	2,001
*Meadville	2	12,781
Mechanicsburg	57	4,469
*Media	64	3,562
Medix Run	14	401
Mehoopany	19	597
Meiser	44	351
*Mercer	10	2,026
Mercersburg	56	1,411
Merion	65	1,201
Merion Station	65	601
Mertztown	62	701
Meshoppen	19	631
Messmore	52	201
Mexico	43	213
Meyersdale	53	3,741
Middleboro	1	207
*Middleburg	44	531
Middleport	47	1,101
Middletown	46	5,374
Midland	35	1,244
Midway	50	941
Mifflin	43	885
Mifflinburg	27	1,559
*Mifflintown	43	954
Mifflinville	30	601
Milanville	9	201
Mildred	18	201
Milesburg	26	531
Milesville	36	201
*Milford	34	872
Millburne	64	322
Mill City	19	351
Mill Creek	41	308
Millersburg	62	634
Millersburg	46	2,394
Millerstown	22	993
Millerstown	45	549
Millersville	61	1,241
Millerton	6	451
Millgrove	30	701
Mill Hall	16	1,043
Millheim	26	626
Mill Run	52	201
Mills	5	391
Millsboro	50	1,001
Millstone	14	301
Millvale	36	7,861
Mill Village	1	291
Millville	30	611
Millwood	37	401
Milroy	42	1,501
Milton	28	7,461
Milton Grove	61	201
Mina	5	501
Mineral Point	39	251
Miners Mills	31	3,159
Minersville	47	7,241
Mines	40	201
Minooka	20	3,001
Mitchells	25	401
Mitchells Mills	38	201
Mohnton	62	1,536
Mohrsville	62	237
Mollenauer	36	501
Monaca	35	3,376
Monessen	37	11,775
Monocacy	62	255
Monongahela	50	7,598
Monroeton	7	403
Mont Alto	56	658
Montandon	28	574
Mont Clare	65	666
Monterey	12	601
Montgomery	17	1,491
Montoursville	17	1,904
Montrose	36	201
*Montrose	8	1,914
Moores	64	1,801
Moorheadville	1	301
Moosic	20	3,964
Mooween	38	201
Morann	25	1,001
Morea Colliery	47	823
Moreland	17	201
Morgan	36	3,001
Morgans Station	52	251
Morgantown	62	201
Morganza	50	1,001
Morrell	40	201
Morris	6	701
Morrisdale Mines	25	669
Morris Run	6	2,301
Morrisville	66	2,002
Morton	64	1,071
Mortonville	63	200
Moscow	20	651
Moselem	62	201
Mosgrove	23	201
Mosiertown	7	201
Mount Aetna	62	325
Mountaindale	39	351
Mountainhome	33	201
Mountain Park	31	601
Mountaintop	31	961
Mountainville	48	601
Mount Bethel	49	401
Mount Braddock	52	1,002
Mount Carbon	47	252
Mount Carbon Junction	47	335
Mount Carmel	28	17,532
Mount Etna	40	201
Mount Holly Springs	57	1,272
Mount Jackson	21	601
Mount Jewett	4	1,771
Mount Joy	61	2,166
Mount Lebanon	36	502
Mount Morris	51	382
Mount Oliver	36	4,241
Mount Penn	62	785
Mount Pleasant	37	5,812
Mount Pleasant Hill	44	251
Mount Pocono	33	201
Mount Sterling	52	501
Mount Union	41	3,338
Mountville	61	803
Mount Wolf	59	201
Mount Zion	60	501
Moyer	52	601
Muddy Creek Forks	59	201
Muncy	17	1,904
Muncy Valley	18	301
Munhall	36	5,185
Munson Station	25	501
Murrell	61	251
Murrysville	37	231
Mustard	36	301
Mutual	37	801
Myerstown	60	1,881
Myra	39	401
N		
Nansen	14	301
Nanticoke	31	18,877
Nantmeal Village	63	201
Nanty Glo	39	1,001
Narberth	65	1,791
Natalie	28	251
Natrona	36	4,002
Nauvoo	6	201
Nazareth	49	3,978
Nebraska	13	251
Neffs	48	201
Neffsville	61	401
Negley	36	225
Nelson	6	448
Nescopeck	31	1,578
Neshannock	10	801
Nesquehoning	32	2,007
Nettleton	39	251
Nevilton	36	300
New Albany	7	413
New Alexandria	37	505
New Bedford	21	201
New Berlin	27	527
New Berlinville	62	302
Newberrytown	59	302
New Bethlehem	12	1,625
*New Bloomfield	45	772
New Boston	47	635
New Bridgeville	59	202
New Brighton	35	8,329
Newburg	57	264
Newburg	41	375
*New Castle	21	36,281
New Castle	47	801
New Chester	58	251
New Columbia	27	401
Newcomer	52	1,051
New Cumberland	57	1,472
New Derry	37	345
New Eagle	50	402
Newell	52	402
New England	36	452
New Enterprise	54	209
New Florence	37	717
Newfoundland	9	901
New Freedom	59	826
New Freeport	51	201
New Galilee	35	453
New Geneva	52	285
New Germantown	45	202
New Hanover	65	504
New Holland	61	1,106
New Hope	66	1,083
New Jerusalem	62	251
New Kensington	37	7,707
New Kingstown	57	325
Newlin	30	201
Newmanstown	60	612
New Milford	8	654
New Millport	25	252
New Oxford	58	838
New Paris	54	200
New Philadelphia	47	2,512
Newport	45	2,009
Newport	21	302
Newportville	66	302
New Providence	61	202
New Ringgold	47	266
Newry	40	381
New Salem	52	424
New Salem	59	248
New Sheffield	35	202
New Stanton	37	302
Newton Hamilton	42	341
Newtown	66	1,675
Newtown	47	350
New Tripoli	48	502
Newville	57	1,449
New Wilmington	21	758
Nicholson	18	852
Nickel Mines	61	202
Niles Valley	6	202
Nineveh	51	252
Noblestown	36	1,002
Noeline	22	502
*Norristown	65	27,875
Northampton	49	1,501
North Bellevernon	37	1,522
North Bend	16	802
North Braddock	36	11,824
North Catasauka	49	2,030
North East	1	2,672
North Girard	1	751
North Charleroi	50	1,008
Northhampton	49	8,729
Northhampton Heights	49	1,037
North Irvin	37	646
North Mehoopany	18	302
North Mountain	17	202
North Pine Grove	12	201
North Sewickly	35	302
Northstar	36	501
North Towanda	7	753
Northumberland	28	3,517
North Wales	65	1,711
North Warren	3	652
North Washington	22	202
North Water Gap	33	202
North York	59	1,902
Norwich	4	1,002

Pennsylvania Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Norwood Station	64	1,668
Nowrytown	38	502
Noxen	18	802
Numidia	30	302
Nuremberg	47	702
O		
Oakbottom	61	302
Oakbrook	62	202
Oakdale	36	1,353
Oak Hall Station	26	202
Oak Hill	61	301
Oakland	23	361
Oakland	10	201
Oakland	8	915
Oakmont	36	3,436
Oak Ridge	23	901
Oak Station	36	251
Oakview	64	402
Obelisk	65	251
Oberlin	46	551
Obold	62	251
Odenthal	39	301
Ogdensburg	6	302
Ogontz	65	301
Ogontz School	65	303
Ohiopyle	52	535
Oil City	11	15,657
Olanta	25	301
Old Forge	20	11,324
Oliphant Furnace	52	201
Oliver	52	1,001
Olyphant	20	8,505
Oneida	47	1,001
Onnalinda	39	502
Onondaga	24	501
Option	36	251
Orangeville	30	400
Orbisonia	41	618
Oregon	61	501
Oreminea	40	202
Orient	52	1,601
Ormsby	4	302
Orrstown	56	247
Orson	9	525
Orviston	26	501
Orwigsburg	47	1,801
Orwin	47	301
Osburn	36	425
Osceola	6	591
Osceola	25	2,437
Osceola Mills	25	2,301
Oshanter	25	401
Oswayo	5	382
Ottsville	66	301
Oval	17	212
Oxford	63	2,391
Oxford Valley	66	251
P		
Packerton	32	502
Paint	53	1,000
Palmerton	32	1,002
Palmyra	60	1,308
Palo Alto	47	1,873
Panic	24	202
Paoli	63	241
Paradise	61	403
Pardee	27	201
Pardoe	10	401
Pardus	24	251
Parker Ford	63	201
Parkers Landing	23	1,244
Parkers Station	12	250
Parkesburg	63	2,522
Park Place	47	201
Parnassus	37	2,578
Parryville	32	591
Parsons	31	4,338
Passmore	62	251
Patterson Heights	35	367
Patton	39	3,907
Paulton	37	501
Paxtonville	44	204
Peale	25	801
Peckville	20	3,915
Pen Argyl	49	3,967
Penbrook	46	1,462
Pencoyd	65	801
Penfield	25	801
Penn	37	1,048
Penn Run	38	201
Pennsburg	65	1,141
Penns Station	37	1,500
Pennsville	52	300
Pennsylvania Furnace	41	301
Penryn	61	201
Pensyl	30	501
Pequea Creek	61	200
Percy	52	500
Perkasie	66	2,779
Perkiomenville	65	225
Perryopolis	52	601
Perrysville	36	300
Perrysville	24	350
Petersburg	41	705
Peterscreek	61	201
Petroleum Center	11	200
Petrolia	22	361
*Philadelphia	67	1,549,008
Philipsburg	26	3,585
Philipston	12	501
Phoenixville	63	10,743
Picture Rocks	17	576
Pillow	46	359
Pine Bank	51	200
Pine Glen	26	201
Pine Grove	47	1,352
Pinegrove Furnace	57	301
Pine Grove Mills	26	325
Pine Station	16	201
Pitcairn	36	4,975
Pitman	47	208
Pittock	36	1,508
*Pittsburgh	36	533,905
Pittsfield	3	301
Pittston	31	16,267
Plainfield	57	252
Plaingrove	21	655
Plains	31	1,201
Plainsville	31	206
Platea	1	220
Pleasant Gap	26	401
Pleasant Mount	9	201
Pleasant Unity	37	625
Pleasant Valley	37	300
Pleasantville	11	702
Plumsteadville	66	601
Plumville	38	414
Plymouth	31	16,996
Plymouth Meeting	65	801
Point Marion	52	1,389
Point Pleasant	66	301
Polk	11	2,066
Pomeroy	63	300
Pond Creek Junction	31	201
Pond Eddy	34	201
Portage	39	2,954
Port Allegany	4	1,972
Port Carbon	47	2,678
Port Clinton	47	491
Port Griffith	31	201
Port Kennedy	65	1,001
Portland	49	649
Portland Mills	14	751
Port Matilda	26	307
Port Perry	36	1,001
Port Providence	65	301
Port Royal	43	535
Port Royal	37	401
Port Trevorton	44	451
Potter Brook	6	201
Potters Mills	26	315
Pottstown	65	15,599
Pottstown Landing	63	200
*Pottsville	47	20,236
Powell	7	302
Powls Valley	46	231
Pogntelle	9	525
Prescottville	24	301
Presto	36	200
Priceburg	20	9,331
Pricedale	37	1,001
Pricetown	62	412
Primrose	50	201
Princeton	21	301
Pringle	31	301
Proctor	17	351
Progress	46	297
Prompton	9	263
Prospect	22	346
Prospect Park	31	201
Prospect Park	64	1,652
Pulaski	21	401
Punxsutawney	24	9,058
Puritan	37	450
Q		
Quakake	47	501
Quakertown	66	3,801
Quarryvile	61	739
Queen Junction	22	201
Quincy	56	501
R		
Radnor	64	301
Railroad	59	308
Rainsburg	54	203
Ralston	17	901
Ramey	25	1,045
Ramsaytown	24	600
Rankin Station	36	6,042
Ranshaw	28	201
Raricks	47	201
Rathmel	24	1,001
Rattigan	22	201
Rauchton	16	201
Ravenrun	47	501
Ravine	47	301
*Reading	62	96,071
Reamstown	61	801
Rebersburg	26	251
Rebuck	28	401
Red Hill	65	664
Redington	49	354
Red Lion	59	2,092
Redman Mills	36	501
Redstone Junction	52	1,001
Reed	38	701
Reedsville	42	307
Rehrersburg	62	509
Reimersburg	12	855
Reinre	47	251
Reissing	50	351
Rendham	20	501
Renfrew	22	501
Rennerdale	36	301
Reno	11	351
Renovo	16	4,621
Republic	52	1,001
Reynoldsville	24	3,189
Rheims	61	251
Rhodes	30	251
Rhone	31	201
Rices Landing	51	671
Richboro	66	225
Richfield	43	231
Richland	60	722
Richland Center	66	1,001
Richlandtown	66	562
Ricketts	18	251
Riddlesburg	54	225
*Ridgeway	14	5,408
Ridley Park	64	1,761
Ridley	64	1,761
Riegelsville	66	701
Rimersburg	12	855
Ringtown	47	723
Rising Springs	26	301
Rittersville	48	250
Riverside	28	429
Riverview	23	401
Rixford	4	501
Roaring Branch	17	451
Roaringcreek	30	701
Roaring Spring	40	1,903
Robertsdale	41	601
Robesonia	62	401
Robinson	38	601
Rochester	35	5,903
Rochester Mills	38	301
Rockdale	64	1,500
Rock Glen	31	301
Rockhill Furnace	41	504
Rockland	11	516
Rockledge	65	879
Rock Point	35	561
Rockville	46	625
Rockwood	53	1,301
Rockgrove	11	501
Rodfield	36	251
Rodney	37	201
Roelofs	66	201
Rogersville	51	401
Rogerstown	52	835
Rohrerstown	61	601
Rohrsburg	30	200
Rolfe	14	301
Rome	7	222
Romola	26	201
Ronco	52	1,001
Ronks	61	201
Rook	36	1,143
Roscoe	50	1,451
Roscoe Station	52	1,001
Rose Bud	25	1,001
Rosedale	39	419
Rosemont	65	1,001
Rose Point	21	245
Roseto	49	201
Rossiter	38	3,001
Rothsville	61	451
Roulette	5	1,501
Rouseville	11	648
Rouzerville	56	301
Rowland	34	301
Rowes Run	52	601
Roxbury	56	808
Royalton	46	1,033
Royer	40	200
Royersford	65	3,073
Ruffs Dale	37	501
Rupert	30	501
Rupp	30	250
Rural Valley	23	763
Russell	3	412
Russell	14	301
Russellton	36	801
Ruthland	6	301
Rutledge	64	523
S		
Sabbath Rest	35	381
Sabinsville	6	601
Sabula	25	1,301
Sadsburyville	63	301
Saegerstown	2	712
Safe Harbor	61	251
Sagamore	23	2,001
Saginaw	59	201
Sagon	28	300
Saint Benedict	39	900
Saint Bonifacius	39	301
Saint Clair	47	6,455
Saint Claire	36	5,640
Saint Davids	64	201
Saint Marys	14	6,346
Saint Michael	39	251
Saint Nicholas	47	1,200
Saint Peters	63	500
Saint Petersburg	12	453
Saint Thomas	56	501
Salem	12	350
Salina	11	200
Salina	37	801
Salisbury Junction	53	885
Salix	39	201
Salladasburg	17	281
Salona	16	401
Saltillo	41	410
Saltsburg	38	1,044
Salunga	61	301
Sample Run	38	301
Sanatoga	65	351
Sandy Lake	10	639
Sandy Ridge	26	401
Sandy Run	31	301
Sarver	22	1,120
Saukerton	39	687
Savan	38	301
Sawyer City	4	201
Saxman	39	300
Saxonburg	22	345
Saxton	54	1,195
Sayre	7	6,425
Scalp Level	39	1,424
Scenery Hill	50	301
Schaefferstown	60	701
Scheib	46	200
Schellburg	54	314
Schnecksville	48	231
Schoeneck	61	301
Schollard	10	201
Schuylkill Haven	47	4,747
Schwenkville	65	381
Scotia	26	201
Scotland	56	223
Scottdale	37	5,456
Scott Haven	37	801
*Scranton	20	129,867
Seanor	53	600
Seek	47	658
Seelyville	9	650
Seisholtzville	62	406
Seitzland	59	202
Selinsgrove	44	1,473
Sellersville	66	1,572
Seneca	11	251
Sevenpoints	28	218
Seven Valleys	59	365
Seward	37	548
Sewickley	36	4,479
Shade Creek	53	600
Shaft	47	1,600
Shafton	37	343

Pennsylvania Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
Shamokin	28	19,588
Shamokin Dam	44	500
Shaners	37	400
Shanksville	53	708
Sharon	10	15,270
Sharon Hill	64	1,401
Sharpsburg	36	8,153
Sharpsville	10	3,634
Shartlesville	62	600
Shawmut	14	500
Shearers Cross Roads	37	200
Sheffield	3	1,500
Shenandoah	47	25,774
Sheppton	47	1,001
Sheridan	60	257
Sheridan	47	1,000
Sherman	9	200
Sherman Dale	45	450
Sheshequin	7	207
Shickshinny	31	1,917
Shields	36	301
Shillington	62	1,427
Shingiehouse	5	1,598
Shippensburg	57	3,457
Shippensville	12	378
Shiremanstown	57	545
Shirleysburg	41	256
Shocks Mills	61	301
Shoemakersville	62	502
Shrewsbury	59	598
Shrewsbury Station	59	308
Shunk	18	301
Siegersville	48	250
Siegfried	49	2,801
Silver Creek	47	2,512
Silverdale	66	232
Silver Spring	61	201
Simpson	20	2,201
Sinking Spring	62	601
Sinnamahoning	15	701
Sirwell	23	601
Siverly	11	1,616
Six Mile Run	54	348
Skinners Eddy	19	201
Skippack	65	359
Slatedale	48	701
Slate Lick	23	201
Slate Run	17	350
Slatington	48	4,454
Sligo	12	754
Slippery Rock	22	870
*Smethport	4	1,817
Smicksburg	38	230
Smithdale	36	478
Smithfield	52	749
Smithmill	25	250
Smith Ferry	35	500
Smithton	37	784
Smock	52	1,001
Smokerun	25	301
Smyser	59	365
Snow Shoe	26	643
Snydertown	28	288
Soldier	24	800
*Somerset	53	2,612
Sonestown	18	301
Sonman	39	601
Soudersburg	61	214
Souderton	65	1,875
Southampton	66	300
South Allentown	48	1,814
South Bethlehem	49	19,973
South Bethlehem	23	439
South Brownsville	52	3,943
South Burgettstown	50	876
South Canonsburg	50	1,697
South Connellsville	52	201
South Danville	28	429
South Fork	39	4,592
South Greensburg	37	1,748
South Heights	35	365
South Newcastle	21	551
South Philipsburg	26	434
South Renovo	16	805
South Sharon	10	10,190
South Sterling	9	350
South Waverly	7	1,084
Southwest	37	1,500
Southwest Greensburg	37	2,127
South Williamsport	17	3,734
Spangler	39	2,701
Spartansburg	2	460
Speers	50	383
Springboro	2	614
Spring City	63	2,801
Spring Creek	48	301
Spring Creek	3	301
Springdale	36	2,000
Springet	59	400
Spring Garden	36	1,000
Spring Grove	59	1,152
Spring Mill	65	959
Spring Mills	[illegible]6	301
Spring Mount	65	250
Springtown	66	300
Spring Valley	48	350
Springville	8	201
Spruce Creek	41	218
Standing Stone	7	201
Stanton	24	201
Starford	38	401
Starjunction	52	3,001
Starners	57	201
Starrucca	9	318
State College	26	1,425
State Line	56	241
Stauffer	37	501
Steamburg	2	201
Steckman	54	201
Steelton	46	14,246
Sterling	9	401
Sterling Run	15	411
Stevens	61	385
Stevensville	7	301
Stewartstown	59	674
Stickney	4	201
Stiles	48	301
Stockdale	50	761
Stockertown	49	426
Stockton	31	201
Stoneboro	10	1,074
Stonerstown	54	250
Stormstown	26	301
Stouchsburg	62	401
Stoyestown	53	355
Strafford	63	201
Straight	14	301
Strangford	33	300
Strasburg	61	885
Strattonville	12	376
Straustown	62	401
Strong	28	701
*Stroudsburg	33	4,379
Sturgeon	33	1,201
Suedberg	47	504
Sugargrove	3	459
Sugarloaf	31	201
Sugar Notch	31	2,439
Sugar Run	7	201
Sugar Run	3	201
Sumerhill	39	863
Summerville	24	609
Summit	39	208
Summithill	32	4,209
Summit Mills	53	201
Sumneytown	65	275
*Sunbury	28	13,770
Superior	37	501
Susquehanna	8	3,478
Sutersville	37	917
Suter	37	917
Swarthmore	64	1,900
Swedeland	65	551
Sweet Valley	31	201
Swissvale	36	7,381
Swoyers	31	5,396
Sybertsville	31	5,396
Sygan	36	1,501
Sykes	24	1,756
Sykesville	24	1,756
Sylvan	56	201
Sylvania	7	217
T		
Tamaqua	47	9,462
Tanners Falls	9	205
Tannersville	33	401
Tarentum	36	7,414
Tarrs	37	501
Tatamy	49	512
Taylor	20	9,061
Telford	66	207
Telford	65	1,501
Temple	62	401
Templeton	23	601
Tenmile Bottom	11	301
Terrace	36	601
Terre Hill	61	882
Thomasville	59	401
Thompson	8	322
Thompsontown	43	293
Thornbury	36	230
Thornhill	36	401
Three Springs	41	248
Throop	20	5,133
Tidionte	3	1,324
Tioga	6	533
Tiona	3	301
*Tionesta	13	803
Tipton	40	401
Titusville	2	8,533
Tohyhanna	33	601
Tomhicken	31	201
Topton	62	809
Toughkenamon	63	241
*Towanda	7	4,281
Tower City	47	2,325
Townville	2	317
Trafford	37	1,959
Trainer	64	201
Transfer	10	401
Trappe	65	398
Trauger	37	1,201
Tredyffrin	63	401
Treichlers	49	250
Tremont	47	2,067
Tresckow	32	501
Trestle	36	201
Treveskyn	36	2,500
Trevorton	28	1,500
Trexlertown	48	475
Tripoli	48	501
Trout Run	17	281
Troutville	25	261
Troy	7	1,288
Truckville	31	201
Truemans	13	201
Trumbauersville	66	611
Tryonville	2	201
Tullytown	66	622
Tulpehocken	62	287
*Tunkhannock	19	1,598
Tunnelhill	39	661
Tunnelton	38	201
Turbotville	28	365
Turtle Creek	36	4,995
Tuscarora	47	701
Twilight	50	468
Tyler	25	1,501
Tylersburg	12	250
Tylersport	65	354
Tyrone	40	7,176
U		
Uledi	52	1,501
Ulster	7	301
Ulysses	5	901
Unamis	53	250
Union City	1	3,684
Union Dale	8	355
Union Deposit	46	475
Union Furnace	41	201
Union Grove	61	200
*Uniontown	52	13,344
Uniontown	46	291
Unionville	26	343
Unionville	63	501
United	31	500
Unity Station	36	500
Universal	36	801
Upland	64	2,221
Upper Darby	64	501
Upper Dehigh	31	651
Upper Providence	64	249
Upper Strasburg	56	250
Urey	38	207
Ursina	53	338
Utahville	25	301
Utica	11	265
Uwchland	63	201
V		
Valencia	22	240
Valier	24	601
Valley Camp	37	401
Valley Forge	63	301
Valley Junction	20	9,331
Valley View	47	500
Vanderbilt	52	1,198
Vandergrift	37	3,876
Vandergrift Heights	37	3,438
Vandling	20	985
Van Meter	37	400
Van Ormer	39	601
Vanport	35	301
Venango	2	251
Venetia	50	501
Verona	36	2,849
Versailles	36	1,437
Village Green	64	237
Villanova	64	201
Vintage	61	300
Vintondale	39	1,411
W		
Wakefield	61	215
Walford	21	501
Walkers Mills	36	501
Wall	56	1,962
Wallaceton	25	324
Walnut Bottom	57	251
Walnut Port	49	401
Walnuttown	62	1,039
Walston	24	1,001
Waltersburg	52	501
Walters Park	62	201
Wampum	21	980
Wanamie	31	1,502
Wapwallopen	31	301
*Warren	3	11,080
Warrendale	36	1,001
Warrensville	17	701
Warrior Run	28	1,251
Warriors Mark	41	301
Warwick	63	250
*Washington	50	18,778
Washington Boro	61	560
Washington Mine	52	3,001
Washingtonville	29	212
Waterford	1	724
Water Gap	33	446
Waterside	54	201
Watsontown	28	1,951
Watters	22	201
Wattsburg	1	283
Waverly	20	515
Waymart	9	412
Wayne	64	2,750
Waynesboro	56	7,200
*Waynesburg	51	3,545
Weatherly	32	2,501
Weavers Old Stand	37	350
Weaversville	49	200
Webster	37	1,001
Weedville	14	301
Wehrum	38	601
Weissport	32	638
Weldbank	3	201
Weldon	65	300
Wellersburg	53	200
*Wellsboro	6	3,183
Wellsburg	1	400
Wellscreek	53	300
Wellsville	59	308
Wendel	37	1,001
Wernersville	62	364
Wertz	40	200
Weskit	23	500
Wesleyville	1	500
West Alexander	50	426
West Apollo	37	501
West Bangor	59	300
West Brownsville	50	2,036
*West Chester	63	11,767
West Conshohocken	65	2,202
West Coplay Junction	48	1,001
West Decatur	25	525
West Easton	49	1,033
West Elizabeth	36	841
West End	11	495
West Fairfield	37	206
West Fairview	57	950
Westfield	6	1,207
West Finley	50	201
West Freedom	12	301
Westgrove	63	1,261
West Hamburg	62	200
West Hanover	46	401
West Hazleton	31	4,715
West Hickory	13	351
West Homestead	36	3,009
West Kittaning	23	589
Westland	50	501
West Leesport	62	436
West Leisenring	52	1,201
West Liberty	22	200
West Manayunk	65	500
West Middlesex	10	1,157

Pennsylvania Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
West Middletown	50	274
West Milton	27	375
West Monessen	50	600
West Monterey	12	601
Westmont	39	1,468
West Newton	37	2,880
Westover	25	569
West Moor	31	400
West Pittsburgh	36	1,000
West Pittsburgh	21	501
West Pittston	31	6,846
West Point	65	250
Westport	16	248
West Reading	62	2,064
West Reynoldsville	24	933
West Salisbury	53	701
West Springfield	1	280
West Sunbury	22	283
West Telford	65	664
West View	36	1,626
Westville	24	501
West Winfield	22	501
West Wyoming	31	1,621
West York	59	2,435
Wheatland	10	955
Whitaker	36	1,547
White	38	201
Whitedeer	27	351
White Haven	31	1,438
Whitemarsh	65	300
White Mills	9	1,500
Whitepine	17	500
Whitney	37	880
Wickboro	23	2,775
Wiconisco	43	2,900
Wigton	25	350
Wilcox	14	1,037
Wilgus	38	250
*Wilkes-Barre	31	67,105
Wilkinsburg	36	18,924
Williams	53	200
Williamsburg	40	1,523
Wiliams Grove	25	400
*Williamsport	17	31,860
Williamstown	46	2,904
Wilock	36	500
Willow Grove	65	800
Willow Street	61	200
Wilmerding	36	6,133
Wilmore	39	314
Wilpen	37	200
Wilson	36	1,108
Winburn	25	1,500
Windber	53	8,013
Windgap	49	832
Windham	7	301
Windsor	59	697
Winfield	27	301
Winfield	22	501
Winterburn	25	201
Winterstown	59	238
Winton	20	5,280
Wireton	37	1,000
Witmer	61	301
Womelsdorf	62	1,301
Woodbury	54	255
Woodland	25	1,201
Woodlawn	35	1,396
Woods Run	50	944
Woodville	36	501
Woodward	26	401
Woolrich	16	251
Wormleysburg	57	809
Worthington	23	436
Wrightsville	59	2,051
Wurtemberg	21	500
Wyalusing	7	580
Wyano	37	300
Wyncote	65	260
Wyndmoor	65	200
Wyoming	31	3,010
Wyomissing	62	985
Y		
Yardley	66	894
Yates	31	433
Yatesboro	23	2,001
Yatesville	31	573
Yeadon	64	882
Yeagertown	42	532
Yerkes	65	201
Yoe	59	567
Yohogany	37	400
*York	59	44,730
Yorkana	59	500
Yorkhaven	59	793
York New Salem	59	221
York Springs	58	300
Youngstown	37	323
Youngsville	3	1,406
Youngwood	37	1,881
Yukon	37	1,001
Z		
Zehner	31	201
Zelienople	2	1,388
Zerbe	47	301
Zeiglerville	65	400
Zion Grove	47	201

PENNSYLVANIA

A Remarkable State Which Stands First in the Production of Many Important Commodities.

Undoubtedly one of the best states for the land seeker is that which has the **greatest number** of resources, so that if agriculture and the purchase of land is not immediately possible, some other industry can be followed, until the **opportunity** for getting a home and land comes forward.

While not the largest in area Pennsylvania is remarkable for having within its borders such great amount and variety of **raw material** pertaining to the necessities of life. The people of this state are to be commended also for the utilization of their natural resources in such great degree. To illustrate:

Water is a **raw material** and the enterprise of Pennsylvania changes it from fluid to solids in such great quantity that the state, in one of the late average years produced ice to the value of $2,038,504.

GREAT IRON MANUFACTURING CENTER.

In iron and steel Pennsylvania was **first** with products valued at **$434,445,200**, or **54** per cent of **all iron** produced in the United States.

This state stood **first** in the manufacture of Coke, Pennsylvania reporting annual products valued at $22,282,358, or **62.6** per cent of all coke manufactured.

This was the state **most prominent** in the making of **glass,** its annual products being worth $23,274,113.

With anthracite coal area of **480 square miles** and bituminous **9,000 square miles,** it is not surprising that its coal product in 1905 was valued at $127,534,895, exceeding **more than 50 per cent** of all the other output of coal in the United States.

In a late year the state stood **first** also in **leather,** its product being valued at $55,615,009.

In the construction of steam and street railroad **cars** Pennsylvania stood **first** with annual products worth $63,570,599.

In petroleum refining this state is first, with annual product valued at $34,977,706.

It stands first in the production of natural gas, with a value of $5,528,610. Salt springs, yielding over 300,000 barrels of salt annually, limestone, sandstone quarries, and fire clay production are among the growing industries being developed.

Pennsylvania leads in production of **Portland cement.** The output in 1897 was 1,200,000 barrels, value $1,740,000, and since then greatly increased annually.

Prosperous manufacturing centers are Philadelphia with **over 18,000 factories** and over **300,000 operatives.** Pittsburg, one of the most important cities in the world, in brass, iron, steel, copper, glass and paper, and with the **natural gas** region around it.

Another great advantage pertaining to the state is that of **transportation.** On June 1, 1905, Pennsylvania had 11,155.84 miles of railroad, and canal and slack water navigation of 725 miles. Erie possesses one of the best harbors on Lake Erie, with a coast line of 45 miles, and has a large **export** and **import** trade, and Philadelphia has **four lines** of European steamers, affording outlet to all parts of the world. Thus it is seen that being near the **great central markets,** the abundant facilities for quickly and cheaply reaching them, healthy climate and great agricultural product, indicating fertile soil, the land seeker will be able with his family to get a **support** in this state, and cannot go far amiss if he makes Pennsylvania his abiding place.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude.—Highest in the state. Allegheny Range has an elevation of from 2,000 to 2,800 feet.

Climate.—Average January temperature at Philadelphia, 32; July 76; extreme warmest 103; coldest 6 below. Annual rainfall 39.8 inches. Average January temperature at Pittsburg 30; July 74; extreme warmest 103; coldest 20 below. Yearly rainfall 36.7 inches.

Dimensions.—Extreme length of the state from north to south, 180 miles; width from east to west, 300 miles.

History.—First visited by Henry Hudson in Delaware Bay, 1609. Lord De la Warr from whom the bay was named, entered its mouth 1610. Fort Nassau built by the Dutch on Delaware river in 1623. First actual settlement by Swedish colonies at Tinicum Island 1643. Whole territory between Delaware and Hudson river taken by Dutch of New Amsterdam 1655. Conquered by the English 1664. Recovered by Dutch 1673. Reverted to British 1674. Charter granted for Pennsylvania Territory to William Penn, who located at New Castle Oct. 27, 1682, and founded Philadelphia. Penn's humane treatment of the Indians and colonists caused prosperity in the colony. Over 300 houses in Philadelphia in 1684, with a population of 2,500. Penn returned to England in 1701 and died there in 1718. Boundary dispute with Maryland settled by establishment of Mason and Dixon's line 1767. First Continental Congress met in Philadelphia 1774. Constitution of the United States adopted and ratified December 12, 1787. Was one of the 13 original states and the second to enter the Union.

STATE AND THE 5 COUNTIES OF RHODE ISLAND

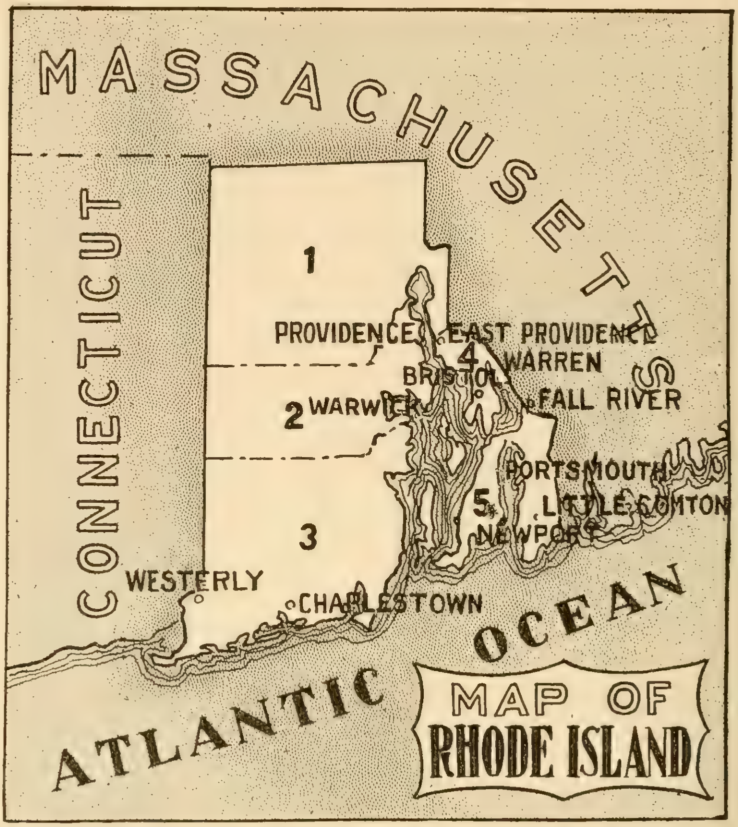
With Their Boundaries

Location and Population of RHODE ISLAND COUNTIES

Location	COUNTIES	Pop. 1910
1	Providence	328,683
2	Kent	29,976
3	Washington	24,154
4	Bristol	18,144
5	Newport	32,599
	Total	542,610

CITIES AND VILLAGES OF RHODE ISLAND WITH 1910 POPULATIONS

Towns	*Loca.*	*Pop.*
A		
Abbottrun	1	250
Adamsville	5	475
Albion	1	850
Anthony	2	2,800
Apponaug	2	1,290
Arctic	2	3,066
Arlington	1	1,226
Arnold Mills	1	303
Ashaway	3	306
Ashland	1	275
Ashton	1	2,620
Auburn	1	5,502
B		
Barrington Center	4	512
Belleville	3	200
Block Island	5	1,273
Bridgeton	1	666
*Bristol	4	8,565
C		
Carolina	3	250
Centerdale	1	1,250
Central Falls	1	22,754
Chepachet	1	1,425
Clayville	1	330
Conimicut	2	200
Coventry	2	820
Cranston	1	21,107
Crompton	2	1,866
D		
Diamond Hill	1	250
E		
*East Greenwich	2	3,420
East Providence	1	15,808
East Providence Center	1	306
Esmond	1	560
F		
Fiskville	1	2,500
Forestdale	1	426
Foster	1	380
Foster Center	1	650
G		
Georgiaville	1	1,066
Glendale	1	370
Grants Mills	1	326
Greene	2	830
Greenville	1	730
Greystone	1	862
H		
Harrisville	1	2,205
Hillsgrove	2	1,202
Hope	1	1,260
Hope Valley	3	402
Howard	1	420
Hughesdale	1	450
J		
Jamestown	5	1,337



CITIES AND VILLAGES OF RHODE ISLAND WITH 1910 POPULATIONS

Towns	*Loca.*	*Pop.*
K		
Kenyon	3	250
*Kingston	3	200
L		
Lafayette	3	390
Lakewood	2	650
Lime Rock	1	490
Little Compton	5	1,232
Longmeadow	2	350
Lonsdale	1	3,509
Lymansville	1	766
M		
Manville	1	4,062
Mapleville	1	607
Meshanticut	1	462
Middletown	5	1,581
N		
Narragansett Pier	3	1,066
Nasonville	1	545
Natick	2	11,950
Nayatt Point	4	641
*Newport	5	27,149
New Shoreham	5	1,273
Niantic	3	250
Nooseneck Hill	2	200
North Scituate	1	1,060
North Tiverton	5	1,650
Norwood	2	650
O		
Oakland	1	490
Oakland Beach	2	506
Oak Lawn	1	826
P		
Pascoag	1	2,425
Pawtucket	1	51,622
Pawtuxet	1	2,700
Peace Dale	3	1,062
Phenix	2	4,150
Phillipsdale	1	700
Pinehill	3	310
Point Judith	3	200
Pontiac	2	1,902
Portsmouth	5	2,371
Potter Hill	3	422
Providence (capital)	1	224,326
Prudence	5	290
R		
River Point	2	3,420
Riverside	1	1,602
Rockland	1	408
Rockville	3	250
Rumford	1	509
S		
Saylesville	1	1,500
Shannock	3	209
Slatersville	1	1,566
South Scituate	1	710
Summit	2	470
T		
Thornton	1	706
Tiverton	5	3,240
Tiverton Four Corners	5	350
V		
Valley Falls	1	4,102
W		
Wakefield	3	1,066
Warren	4	6,585
Warwick	2	350
Washington	2	880
West Barrington	4	770
Westerly	3	9,000
West Greenwich Center	2	474
White Rock	3	309
Wickford	3	1,502
Woonsocket	1	38,125
Wyoming	3	320

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

RHODE ISLAND

Smallest in Area of Any One of the United States—Location of the First Cotton Factory in the Union and the Leading Center for Print Cloths

Should the land seeker ask concerning the **inducements** for settlement in Rhode Island, the reply may be that an old manufacturing region like this affords **ample opportunity** for getting employment, if not on land, then certainly in some one of the many factories that abound in this state.

It is a fact that must always be understood, that in any region it takes a little time to get fixed in the right place. Whether in a Western territory or in an old New England State, there are vacancies occurring, from time to time, in the various avenues of enterprise and employment which call for **every kind** of brain and hand. With the tens of thousands of different men it is impossible that **all** can be kept **continually** in the same groove. By death, restlessness, discharge, accidents and otherwise, one officer after another, one mechanic after another, one laborer after another, will fall out of the ranks and **his** place must be filled.

While that is true in the field of mechanics and clerical employ, it is **true** in the domain of agricultural enterprise and ownership. However desirable locations and neighborhoods may be for gardening or farming, lands always will be offered for sale in choice localities, and the land seeker has only to visit such places as **fancy and judgment** may select, bide his time, watch the opportunity and **obtain** what is desired.

CENTRAL POINT FOR DISTRIBUTION.

Examination shows that Rhode Island is very favorably located for **commercial advantage.** It has a good climate, with an annual average temperature of about 48 at Providence, and 50 at Newport, with a yearly rainfall of 44.81 inches at Providence. While not a **mountainous** region it is hilly, with a soil,, to the West of Narragansett Bay, naturally better adapted to grazing than to the growing of cereals and vegetables. And yet, through fertilization, and through **cultivation,** the small farms and market gardens in the vicinity of the cities afford **liberal support** for their owners.

That the people of Rhode Island are attached to their farms, their gardens, and their factories, is shown in the fact that instead of **emigrating** to other parts of the world, where agricultural conditions would **seem** to be better, they continue to remain—they, their children, and their children's children—right here in Rhode Island until population is so dense as to give over 508 persons to the square mile.

NATURAL MANUFACTURING POINT.

Investigation shows that while agriculturists and horticulturists do well here, it is **not** the **soil** which holds them. In fact, census returns show that less than one-fifth of the people engage in agriculture, but that the great majority are employed in factories and manufacturing. Though the streams generally are small they furnish such an **abundance** of power as to make the state, with its accessibility to markets, aided by railroads and Narragansett Bay, which extends up 28 miles into the state, an **ideal** region for manufacturing, and shipment of goods to the nearby great markets.

BEGUN IN THIS STATE.

It was here at **Pawtucket,** on Pawtucket River, where the **first** cotton factory **in America** was erected in 1790. It is near here, at Providence, that the great Corliss engine works are located. Providence, with its immense woolen and cotton mills, is widely celebrated as being the leading market for print cloths in the United States.

As a general manufacturing point **Providence** is a center for **silverware, jewelry, hardware** and **sewing machines;** Pawtucket for its extensive print, **dyeing and bleaching works,** files and cardboard; Woonsocket, for its cotton manufactures; Valley Falls its **horseshoes,** and Bristol its **rubber** works, and its **torpedo boats,** launches and yachts.

The shell fisheries are important. The commerce is chiefly domestic. Providence, being so far up in the interior by water navigation, up Narragansett Bay, and river, Providence receives large quantities of coal and cotton for neighboring states as well as for the home supply, and ships manufactured goods. Being a very central inland seaport, much merchandise is received and shipped from here for the Boston trade.

WHY TWO CAPITALS FOR THE STATE.

People will query why **so small a state** should find it necessary to have had so long two state capitals. It is the old story of two families living in one house. While they could pleasantly visit each other from distant points, moving in together made a familiarity that bred **contempt,** which resulted in quarrel.

The differences here date back to 1636 when Roger Williams was banished from Massachusetts for too much **liberality** in religion and took up his residence in this state at the head of a colony. William Coddington came in 1639 at the head of another colony, located on the island where Newport and Portsmouth are situated, followed by John Greene and Samuel Godin, who headed a settlement at Warwick in 1643.

In the meantime Roger Williams went to England and obtained a patent for the united government of the settlements. Following this patent, which expired in 1663, a charter was secured from Charles II of England incorporating the colony of Rhode Island and the Providence Plantations, which was the only constitution of government for 180 years. This old charter of 1663 during the 180 years, brought old conditions up to 1843, when Providence, Pawtucket and other towns, dissatisfied with their small representation in the legislative councils, though many times larger than Newport, had a constitutional convention called and secured the necessary votes to make Providence the seat of government. State officers were elected, but in the attempt to secure the capital for Providence the party in power claimed that the **old charter** was in force, that the election was **illegal,** that the attempt to take the reins of government was **rebellion,** and when the people met to enforce the provisions of the **new election** they were met with a military force and dispersed. Not only that, but the **newly elected governor** was arrested as a traitor and **imprisoned** for a time.

ENDEAVOR TO GET ONE CAPITAL.

As a compromise a new state constitution was prepared and adopted by the people which made Providence and Newport each alternately the capital of the state, and such was the condition since 1843 until the adoption of an amendment to the state constitution in 1900 which caused Providence to become the capital of the state.

The story **is much longer** than we have told it here as to the cause of the two capitals, but this was the case in brief. Land seekers will not worry, however, about old history. On the contrary, they will act wisely when they **investigate** why so many people can live and prosper in so small a space. The result may be that they will find here what they want.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

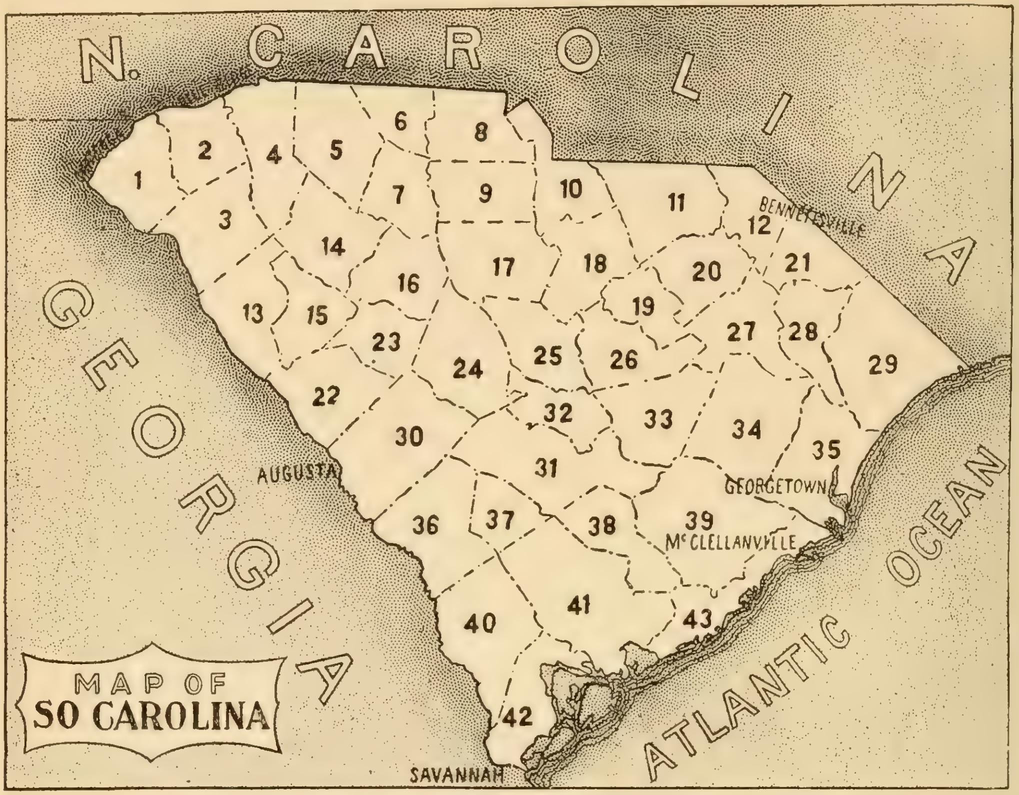
Altitude. Highest, Poscoag Hill, in northwest corner of Providence County, 394 feet.
Climate. Average yearly, Providence, 47.91; Newport, 49.39. Average January, 30; July, 70. Highest, 92. Lowest, 8 below. Annual rainfall, 50.0.

Dimensions. Length of state, from north to south, 50 miles. Width from east to west, 35 miles. Area of the state, 1,250 square miles.

History. One of the 13 original states. Ratified the United States Constitution and entered the Union, 1790. First settlement made at Providence by Roger Williams, 1636. Charter for Rhode Island and Providence obtained from Charles II of England in 1663. Portsmouth and Newport settled 1638 and 1639.

STATE AND THE 43 COUNTIES OF SOUTH CAROLINA

With Their Boundaries



LOCATION AND POPULATION OF SOUTH CAROLINA COUNTIES

Loca.	County	Pop.
1	Oconee	27,337
2	Pickens	25,422
3	Anderson	69,568
4	Greeneville	68,377
5	Spartanburg	83,465
6	Cherokee	26,179
7	Union	29,911
8	York	47,718
9	Chester	29,125
10	Lancaster	26,650
11	Chesterfield	26,301
12	Marlboro	31,189
13	Abbeville	34,804
14	Laurens	41,550
15	Greenwood	34,225
16	Newberry	34,586
17	Fairfield	29,443
18	Kershaw	27,094
19	Lee	25,818
20	Darlington	36,027
21	Dillon	22,615
22	Edgefield	28,281
23	Saluda	20,943
24	Lexington	32,040
25	Richland	55,145
26	Sumter	38,472
27	Florence	35,671
28	Marion	20,396
29	Horry	26,995
30	Aiken	41,849
31	Orangeburg	55,892
32	Calhoun	16,634
33	Clarendon	32,188
34	Williamsburg	37,626
35	Georgetown	22,270
36	Barnwell	34,209
37	Bamberg	18,544
38	Dorchester	17,891
39	Berkeley	23,487
40	Hampton	25,146
41	Colleton	25,390
42	Beaufort	30,355
43	Charleston	88,594
	Total	1,515,400

South Carolina Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
*Abbeville	13	4,459
Adams Run	43	200
*Aiken	30	3,911
Alcolu	33	458
Allen	29	200
Allendale	36	1,453
*Anderson	3	9,654
Arcadia	5	306
Ardella	5	390
Arial	28	508
Arkwright	5	560
B		
*Bamberg	37	1,937
*Barnwell	36	1,324
Batesburg	24	1,995
Bath	30	560
*Beaufort	42	2,486
Belton	3	1,652
*Bennettsville	12	2,646
Bessie	4	250
Bethune	18	317
*Bishopville	19	1,659
Blacksburg	6	1,119
Blackville	36	1,278
Blenheim	12	228
Bluffton	42	577
Bordeaux	13	326
Bowman	31	327
Bradley	15	279
Branchville	31	1,471
Brandon	4	302
Brunson	40	610
Bucklick	17	490
Buffalo	7	2,062
C		
Calhoun	2	215
Calhoun Falls	13	296
*Camden	18	3,569
Cameron	32	421

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South Carolina Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Campobello	5	255
Carlisle	7	367
Cartersville	27	314
Cateechee	2	390
Central	2	886
Chapin	24	345
*Charleston	43	58,833
Cheraw	11	2,873
Cherokee Falls	6	591
*Chesterfield	11	618
*Chester	9	4,754
Clemson College	1	496
Clifton	5	6,066
Clinton	14	3,272
Clio	12	780
Clover	8	1,207
Cokesbury	15	756
Colemans	23	3,009
Colliers	22	2,062
Columbia (capital)	25	26,319
Converse	5	1,098
*Conway	29	1,228
Cottageville	41	418
Cowpens	5	1,101
Crocketville	40	200
Cromer	16	2,223
Cross Anchor	5	200
Cross Hill	14	558
D		
*Darlington	20	3,789
Denmark	37	1,075
*Dillon	21	1,757
Donalds	13	268
Drayton	5	208
Due West	13	672
Dunklin	4	220
E		
Easly	2	2,983
Eastover	25	237
Eau Claire	25	1,234
Ebenezer	27	1,190
*Edgefield	22	1,771
Edisto Island	43	4,066
Ehrhardt	37	315
Ellenton	30	367
Elliott	19	562
Elloree	31	540
Enoree	5	2,100
Enterprise	43	2,026
Estill	40	460
Eutawville	31	405
Exchange	43	396
F		
Fairfax	36	499
Fairforest	5	306
Fingerville	5	320
*Florence	27	7,057
Forkshoals	4	360
Fort Lawn	9	204
Fort Mill	8	1,616
Fort Motte	32	392
Fountain Inn	4	979
G		
*Gaffney	6	4,767
*Georgetown	35	5,530
Gilbert	24	450
Glendale	5	800
Goldville	14	204
Golightly	5	326
Gourdin	34	200
Grahamville	42	293
Graniteville	30	2,520
Gray Court	14	284
Great Falls	9	226
Greeleysville	34	630
*Greenville	4	15,741
*Greenwood	15	6,614
Greer	4	1,673
H		
Hamburg	30	484
*Hampton	40	748
Hardeeville	42	649
Hartsville	20	2,365
Heath Springs	10	452
Helena	16	425
Hendersonville	41	319
Hickory Grove	8	285
Highland	4	200
Hix	31	602
Hodges	15	266
Holly Hill	31	342
Honea Path	31	1,763
Huntersville	4	250
I		
Inman	5	474
Irmo	24	267
Iva	3	894
J		
James Island	43	2,022
Jefferson	11	390
Johns Island	43	1,000
Johnston	22	943
Jonesville	7	969
Jordan	33	362
K		
Kathwood	30	208
Kershaw	10	682
*Kingstree	34	1,372
Kline	36	226
L		
Ladies Island	42	3,026
Lake City	27	1,074
Lamar	20	592
*Lancaster	10	2,098
Lando	9	296
Landrum	5	449
Langley	30	1,500
Latta	21	1,358
Laurel	35	222
Laurens	14	4,818
Leeds	9	350
Leesville	24	980
Lenud	34	250
Levys	42	209
*Lexington	24	709
Liberty	4	1,058
Liberty Hill	18	262
Lima	4	420
Lisbon	14	341
Little Mountain	16	440
Lockhart	7	2,096
Lodge	41	202
Loris	29	229
Lowndesville	13	350
Lowryville	9	343
Lumber	20	328
Lydia	20	1,513
Lynch	27	1,013
Lynchburg	19	466
M		
McClellanville	43	974
McColl	12	1,628
McConnellsville	8	279
McCormick	13	613
Madison	1	208
*Manning	33	1,854
*Marion	28	3,844
Mars Bluff	27	450
Maryville	43	473
May	21	290
Mayesville	26	751
Meggett	43	1,090
*Monks Corner	39	506
Moultrieville	43	1,011
Mount Carmel	13	264
Mt. Pleasant	43	1,346
Mullins	28	1,882
N		
Navy Yard	43	1,660
*Newberry	16	5,028
New Brookland	24	926
Newry	1	920
Neyles	41	360
Ninety-six	15	758
North	31	561
North Augusta	30	1,136
Norway	31	315
O		
Olanta	27	230
Olar	37	350
Oldpoint	8	250
*Orangeburg	31	5,906
P		
Pacolet	5	410
Pageland	11	360
Paris Island	42	306
Pelham	4	306
Pelzer	30	6,620
Pendleton	3	822
*Pickens	2	897
Piedmont	4	3,602
Pinewood	33	421
Pinopolis	39	200
Pomaria	16	220
Ponpon	43	360
Port Royal	42	363
Prosperity	16	737
Q		
Quick	11	260
R		
Reedy River Factory	4	220
Reevesville	38	205
Richburg	9	245
Ridgeland	42	330
Ridge Spring	23	505
Ridgeville	38	328
Ridgeway	17	370
Rockhill	8	7,216
Rowesville	31	508
Rural	19	490
S		
*St. George	38	957
St. Helena Island	42	7,747
*St. Matthews	32	1,377
St. Stephen	39	408
Salley	30	311
*Saluda	23	610
Sampit	35	200
Sandyrun	32	1,610
Scranton	27	308
Sellers	28	458
Seneca	1	1,313
Shandon	25	795
Sharon	8	374
Silver	33	200
Simpsonville	4	521
Smoaks	43	290
Snelling	36	338
Society Hill	20	580
South Lynchburg	19	275
Sparjun	5	490
*Spartanburg	5	17,517
Springfield	31	438
Star	3	264
Steedman	24	220
Stillwood	40	206
Stokesbridge	19	2,121
Summerton	33	678
Summerville	38	2,355
*Sumter	26	8,109
Swansea	24	523
T		
Tatum	12	225
Timmonsville	27	1,708
Townville	3	255
Trenton	22	257
Troy	15	233
Tucapau	5	866
U		
*Union	7	5,623
V		
Varnville	40	542
Vaucluse	30	850
W		
Wagener	30	362
*Walhalla	1	1,595
*Walterboro	41	1,677
Wando	39	250
Warrenville	30	326
Wedgefield	26	250
Welford	5	370
Westminster	1	1,576
West Union	1	328
Westville	18	847
Whitehall	41	366
White Pond	39	250
Whitmire	16	1,045
Wilkins	42	3,060
Wilksburg	9	326
Williamston	3	1,957
Willington	13	365
Williston	36	624
Windsor	30	200
*Winnsboro	17	1,754
Woodruff	5	1,880
Woodward	17	396
Y		
Yemassee	40	250
*Yorkville	8	2,326
Yonges Island	43	226

SOUTH CAROLINA

A State That Raises Tea, Pays Expense of Bringing Immigrants from Foreign Countries to Southern Ports, Entertains New Arrivals with Cordial Welcome, and Finds Them Good Positions on Farms or in Manufacturing Employment

One of the very favorably situated states, located on the south Atlantic coast is South Carolina, the state authorities in which are exhibiting a **great amount of enterprize** in advertising its advantages.

To inform land seekers of the face of the country, climate and soil we take the following from Hill's General Cyclopedia.

"The area of the state comprises 30,961 square miles. It is 180 miles long, from north to south, and 160 miles wide, from east to west.

"**The surface** may be about equally divided into high, middling and low land, the last named rising from the seacoast, where it is flat and level, and gradually **increasing** in elevation toward the interior., where it attains an average of about 250 **feet**, continuing to the north line where, after varying from 300 to 800 feet, it reaches an elevation of 1,000 feet **at Table Mountain** in Pickens County.

LOW MARSHY LAND NEAR THE COAST

"The land along and near the coast is low, marshy and swampy, especially on the river banks, rolling and diversified toward the center, and undulating near the mountain slope, but **in places abrupt.** King's Mountain rising almost **perpendicularly** 500 feet.

"The land is well drained by numerous rivers, the largest of which, the Santee, formed by the Saluda, Congaree, Catawba and Wateree, uniting at the center of the state. There are several smaller rivers the **power** on which is being **developed** for manufacturing.

CLIMATE OF SOUTH CAROLINA

"The climate is mild and genial, snow **falling** in the mountains **but rarely** in the middle sections, and seldom or never **along the coast**. The average yearly temperature at Charleston is 65. The rainfall ranges from 60 inches on the coast to 40 inches in the mountains, with 48 inches in the interior.

"The soil in the low country is **remarkably** fertile, the several swamps and reclaimed marshes, being admirably adapted to the cultivation of rice, while the sandy loam of the **sea islands** and surrounding mainland, produces the **finest long staple** black seed, or sea island cotton of silky fiber. Abundant crops are raised of wheat, rye, corn, oats, barley, buckwheat, peas, beans, sugar, tobacco, indigo, sorghum, broom corn, sunflower, Guinea corn, sweet and Irish potatoes, hemp, flax and hops.

WHAT KINDS OF ORCHARDS HERE

"Numerous orchards all **over the state** furnish quantities of apples, pears, quinces, plums, peaches, nectarines, apricots, cherries, and along **the coast**, figs, oranges, lemons, olives and pomegranates. The raspberry, blackberry, mulberry and whortleberry are produced. The **strawberry** is extensively cultivated along the coast. The grape **grows wild** in many portions of the state and in great varieties. The gardens and farms produce, **in abundance**, turnips, beets, parsnips, carrots, artichokes, mustard, benne, rhubarb, arrowroot, water and musk melons, cucumbers, cabbages, kale, lettuce, cayenne pepper, squashes, okra, pumpkins, onions, leeks, beans, radishes, celery, green peas and tomatoes.

"The forests consist of long and short leaved **pine**, magnolia, sweet and black gum, white, water, live and red oak, **black walnut**, elm, hickory, maple, sycamore, ash, cypress, chestnut, beech, locust, persimon, dogwood and poplar.

MINERALS OF SOUTH CAROLINA

"**Minerals** are liberally diffused over the state. The **gold belt** extends from the **north** Carolina line in a southwesterly direction. Granite is **abundant** in many counties. But the most **important** mineral product of South Carolina is the famous deposit of **phosphate rock** extending about **70 miles** from the mouth of the Broad River, near Port Royal, to the headwaters of the Wando, north of Charleston.

"Manufactures are growing in importance, chief among them being cotton yarn and cloth, flour, lumber, turpentine and fertilizers. The cotton seed industry is one of the thriving lines of industry."

FISHERY BUSINESS

The fisheries of South Carolina are of considerable importance, but the warm climate, fertile soil, abundant rainfall all indicate that one of the **most important** industries in the near future will be **truck business** and market gardening in the vicinity of the towns and cities of the state. It is seen from our enumeration of the different fruits and vegetable products, which can be grown in this climate, that this state has an **excellent future** for the agriculturist and the horticulturist.

Knowing the abundant resources of the state, the authorities of South Carolina have **entered** upon a **vigorous advertising** of the state for the purpose of bringing in a new population. To that end they have arranged with a certain transportation line to run their steamers from Europe **direct** to the South Carolina seaports, bringing in a class of people of their own selection in European countries.

THE STATE SENDS A COMMISSION DIRECT TO EUROPE

To begin the work of upbuilding the state **systematically**, the state legislature organized the South Carolina State Department of Agriculture, Commerce and Immigration, and to **carry forward** the work rightly an enterprising capable man has been appointed commissioner, who agrees with the Federal government to bring immigrants into South Carolina and **not violate** labor laws.

To carry the immigration scheme through he **personally** goes to European countries, arranges with foreign governments to allow their people to **emigrate**, sorts out such people as will make **good citizens** in the United States, pays their fare when necessary, hunts up **freight** enough **coming over** and **going back** to make it an object for the steamer to come direct to a southern port, besides carrying passengers, sees to the **reception** of these immigrants when they get here, **aids them** in getting into the **back districts** where their assistance is required in farming districts, and into **cotton mills**, and other factories where their help is imperatively necessary.

GREATLY HELPS IMMIGRANTS

The result is the immigrants who come, receive **better pay** than in their own country, they come into **better conditions** for themselves and families, and in developing the resources of the South their labor is adding just so much to the wealth and taxable values of the country. While not competing with the laboring classes they are **benefiting everybody** who has occasion to buy any product that comes from the South.

The South Carolina Immigrant Commissioner does **not stop** at this. He has gathered **lists of farm properties** for sale, with prices in all parts of the state, puts into pamphlet form these properties for sale, conditions of climate, soil, cost of living in South Carolina, educational advantages, etc., and **any one** who will write to the Commissioner of Immigration, Columbia, S. C., will receive instructive literature that will prove the **superior** opportunities offered in this state for land seekers, people that want to buy land, hire land, work for others or work land on shares.

RAISING TEA PROFITABLY IN SOUTH CAROLINA

This **South Carolina** immigration literature illustrates how they are **raising tea** in South Carolina, where in 1911 they produced 10,000 pounds, worth one dollar a pound; how they produce silk, glassware, paints, fertilizing materials, oranges, etc., etc. Tells how **one man** in Marlboro county grew 255 bushels of corn from a single acre, how a couple of Rhode Islanders, who came in here, settled at Beaufort, went into the trucking business, planted **36 acres in radishes**; took off a crop, and planted again in radishes, realizing **$10,000** from the two crops. The next year they planted the same ground in beets; took off a good crop and followed this with cucumbers, making a good yield. After cucumbers, corn was planted making over 50 bushels to the acre.

Five (5) crops on the same ground in the same year, in rotation were gathered. A **picture is given** in the pamphlet showing these grounds, accompanied by the statement that these men knew but **little** of farming at the beginning.

HOW NEWCOMERS ARE SUCCESSFUL HERE

This literature details how a poor man at Neggett, S. C., began working for **small wages** in 1891, and is now the largest shipper of cabbage in the world from his **1,000 acres**. The cultivating of that crop costing him $110,000. Gives the case of another man at Yonge's Island who is the largest shipper of **cabbage plants**. Ships 40,000,000 plants worth $35,000. Sends out 100,000,000 plants in 100 cars. Began a poor man.

The largest pecan grower in existence is claimed to be at Mount Pleasant, S. C., having one grove of 600 acres, and two smaller groves with 10,000 trees in each. His annual product is ten tons.

But the South Carolina Immigrant Commission does **not stop** at simply sending out advertising matter. They want everybody—**every land seeker**, who wishes to change position or improve his condition, to write to the commissioner, who will immediately send back word telling the cheapest and best way to get here. And that is **not all**, when the newcomer arrives a **reception committee** will meet him, entertain him, show him at the **permanent State Exhibit** at Columbia the resources of the state, and when he decides **what** he wants to do and **where** in the state he wants to **locate** he will be aided to get there, permanently and profitably settled.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE

Altitude—Highest point in the state, Table mountain in the Blue Ridge mountains in Pickens county.

Climate—Yearly average, at Charleston, 66.3, January average, 49; July 82; extremes: warmest, 104; coldest, 7 above; yearly rainfall, 56.7 inches.

Collection of Debt—Open accounts outlaw in 6 years; promissory notes in 6 years; judgments in 20 years. Legal interest 7 per cent, allowable rate 8 per cent. Limit of jurisdiction of justice of the peace $100. Exempt from forced sale, home worth $1,000 and personal property $500.

Dimensions—Length of the state from north to south 215 miles, width from east to west 235 miles. Total area of the state 30,570 square miles. Ocean shore line 200 miles.

History—One of the 13 original states, ratified National Constitution 1788. Port Royal Harbor discovered and named by Ribault, a French Huguenot, who built Fort Carolina on an islend there in 1562, but the colonists soon rebelled and returned to Europe. In 1670 a party of English under William Sayle founded Port Royal, but 10 years later moved to the present site of Charleston. Separated from North Carolina 1700, became a royal colony 1729. First state constitution, 1776. Present constitution adopted 1896.

INFLUENCES WHICH PRECIPITATED THE REBELLION

JOHN C. CALHOUN OF SOUTH CAROLINA.

"John C. Calhoun, the third son of his parents, was born just at the close of the Revolutionary struggle. He showed himself from early boyhood grave and thoughtful, ardent and persevering. At the age of 13 he took to reading history and metaphysics. His father died about this time, leaving his family in moderate circumstances.

"Continuing with his mother, John C. lived upon the farm until the age of 19, when he commenced a course of reading, having in contemplation the profession of law.

"In June, 1800, he entered the private academy of his brother-in-law, Dr. Waddel, a Presbyterian clergyman, and two years afterward joined the Junior class of Yale College. He graduated with the highest distinction. Dr. Dwight, the president of the college, remarked, after a discussion with him on the origin of political power,, 'That young man has talent enough to be president of the United States.'

"The next three years he devoted to the study of law, eighteen months of it in the law school at Litchfield, Conn., then the only institution of its kind in the country.

"He was soon afterward chosen a member of the State Legislature, and in 1811 was elected to Congress. Marrying in 1811, he settled in Bath, S. C., a few miles distant from his former home in Abbeville and there continued his place of residence when absent from Washington.

"From the time of his first election to Congress he was almost continuously actively employed as a southern representative in Congressional legislation, his contemporaries in Congress, among others, being Henry Clay and Daniel Webster, with whom he had many controversies on matters affecting the admission of new states and their attitude on the subject of **slavery.**

"Tall, dignified, an eloquent speaker and a very forceful reasoner, it is not surprising that he was a man of large influence in the councils of the Nation.

CALHOUN IN PRIVATE LIFE.

Concerning Calhoun as a citizen in private and domestic life, his biographer continues:

"As a private citizen Calhoun was highly amiable and exemplary, enjoying the devoted love of his own family and dependents and the entire respect and sincere regard of his neighbors. He had ten children, three daughters who died in early infancy, and five sons and two daughters who survived him. His political views were often gloomy; but in private life he was uniformly cheerful. He entered into the enjoyments of those around him with a sympathy and kindness that endeared him to all. He was fond of promoting innocent mirth, and, though no jester himself, laughed heartily at the jests of others.

"He was fond of reading, and in his youth devoted much of his leisure to it, but neither his multifarious occupations nor his cast of mind permitted him to be a general reader. He, however, enjoyed good poetry, good novels, and able reviews. He was not wealthy, but his pecuniary means under his excellent management were amply sufficient for the wants of his family. Though not musical, he was fond of Scotch and Irish songs and ballads.

"He rose early and devoted his mornings to writing. He walked a great deal over his plantation, personally superintending its minutest operations. He was the first or one of the first in that region to cultivate successfully small grain and cotton for market; and he not only had the finest melons, figs, peaches and other southern fruits, but his apples, pears, cherries, grapes, strawberries, raspberies, etc., were equally excellent.

"He was not only fond of agriculture, but an eminently good and successful planter. His servants were, in all respects, well treated. They came to him as umpire and judge. Of their private crops he purchased what he wanted at the highest market price, and gave them every facility for disposing of the rest. His rigid justice regulated his conduct towards them, which they repaid by devoted affection; and this system of management was so successful that to have been an overseer at Fort Hill was a high recommendation. His countenance at rest was strikingly marked by decision and firmness; in conversation or when speaking, it became highly animated and expressive. His large, dark, brilliant, penetrating eyes strongly impressed all who encountered their glances. When addressing the Senate he stood firm, erect, accompanying his delivery with an angular gesticulation. His manner of speaking was energetic, ardent, rapid and marked by solemn earnestness which inspired strong belief in his sincerity and deep conviction."

We have turned aside thus to dilate on one of the most distinguished characters in Southern life, in order to reveal why the people of South Carolina were led into the rebellion.

Mr. Calhoun was born in the midst of pro-slavery sentiment. Masters and slaves were everywhere about him. He had no occasion to study the subject of anti-slavery. All his association was with pro-slavery element, and his legal support came from slave owners.

Being elected to Congress by pro-slavery interests, it was natural that he should espouse the pro-slavery cause. His advent into Congressional Legislation was at a time when new states were asking for admission to the Union and Congress was to determine whether they should be free or slave states. At this juncture Calhoun came to the front as the champion of pro-slavery. This was demonstrated in the speech he made in Congress in 1848 on the question of admitting Oregon as a free state. In this speech he strenuously opposed the admission of Oregon as free territory.

At that period the anti-slavery sentiment of the North was becoming more and more aggressive, causing Congressmen from the South to threaten the dissolution of the Union if the North continued to interfere with the property rights of the South on the subject of slavery.

To protect the slave interests Calhoun entered upon the advocacy of state rights—the right of a state to separate from a union of other states, that the American revolution was precipitated by a determination to separate from the mother country and equally should it be the privilege of the South to go by itself to protect its rights.

It was extremely natural for an able advocate like Calhoun—a strong man of blameless life, a brilliant orator, speaking from concientious motive, to make an audience believe in the right of secession. And so Calhoun carried the people with him up to the point of firing upon Fort Sumter, as they did on April 12-13, 1861, in Charleston Harbor, South Carolina. Although Calhoun at that time had been dead eleven years, his advocacy of the right of a state to secede had finally borne fruit.

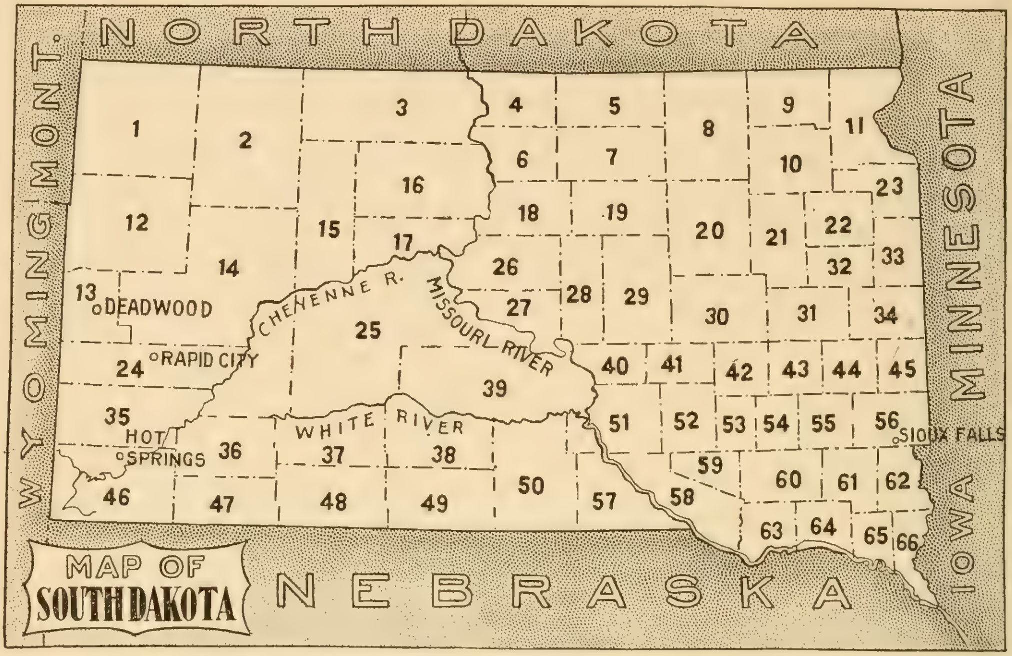
DANIEL WEBSTER'S OPINION OF CALHOUN.

In memorial address, in the Senate of the United States, Webster gave his estimate of Calhoun, from which we extract the following:

"The eloquence of Mr. Calhoun was a part of his intellectual character. It grew out of the qualities of his mind. It was plain, strong, wise, condensed, concise, sometimes impassioned, still always severe. Rejecting ornament, not often seeking illustration, his power consisted in the plainness of his propositions, in the closeness of his logic and in the earnestness and energy of his manner. No man was more respectful to others; no man carried himself with greater decorum; no man with superior dignity. I have not in public or in private life known a more assiduous person in the discharge of his duty. * * * His colloquial talents were singular and eminent. There was a charm in his conversation not often found. He delighted especially in the conversation and intercourse with young men. I suppose there has been no man among us who had more winning manners in such an intercourse and such conversation with men comparatively young. * * * He has the basis, the indisputable basis of all high character, unspotted integrity and honor unimpeached."

STATE AND THE 66 COUNTIES OF SOUTH DAKOTA

With Their Boundaries



LOCATION AND 1910 POPULATION OF SOUTH DAKOTA COUNTIES.

Loca.	*County*	*Pop.*
1	Harding	4,228
2	Perkins	11,348
3	Corson	2,929
4	Campbell	5,244
5	McPherson	5,791
6	Walworth	6,488
7	Edmonds	7,654
8	Brown	25,867
9	Marshall	8,021
10	Day	14,372
11	Roberts	14,897
12	Butte	4,933
13	Lawrence	19,694
14	Meade	12,640
15	Ziebach	.....
16	Dewey	1,145
17	Armstrong	647
18	Potter	4,466
19	Faulk	6,716
20	Spink	15,981
21	Clark	10,901
22	Codington	14,092
23	Grant	10,303
24	Pennington	12,453
25	Stanley	14,975
26	Sully	2,462
27	Hughes	6,271
28	Hyde	3,307
29	Hand	7,870
30	Beadle	15,776
31	Kingsbury	12,560
32	Hamlin	7,475
33	Deuel	7,768
34	Brookings	14,178
35	Custer	4,458
36	Washington	.....
37	Washabaugh	.....
38	Mellette	.....
39	Lyman	10,848
40	Buffalo	1,589
41	Jerauld	5,120
42	Sanborn	6,607
43	Miner	7,661
44	Lake	10,711
45	Moody	8,695
46	Fall River	7,763
47	Shannon	.....
48	Bennett	.....
49	Todd	.....
50	Tripp	8,323
51	Brule	6,451
52	Aurora	6,143
53	Davison	11,625
54	Hanson	6,237
55	McCook	9,589
56	Minnehaha	29,631
57	Gregory	13,061
58	Charles Mix	14,899
59	Douglas	6,400
60	Hutchinson	12,319
61	Turner	13,840
62	Lincoln	12,712
63	Bonhomme	11,061
64	Yankton	13,135
65	Clay	8,711
66	Union	10,676
	Total	583,888

Cities and Villages of South Dakota with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
*Aberdeen	8	10,753
Alcester	66	409
*Alexandria	54	955
Alpena	41	417
Andover	10	446
Arlington	31	791
*Armour	59	968
Artas	4	200
Artesian	42	593
Ashton	20	430
Aurora	34	236
Avon	63	451
B		
Baltic	56	278
*Bellefourche	12	1,352
Beresford	66	1,117
Bigstone City	23	751
Blunt	27	566
Bonesteel	57	563
Bowdle	7	671
Bradley	21	351
Bridgewater	55	934
Bristol	10	444
*Britton	9	901
*Brookings	34	2,971
Bruce	34	262
Bryant	32	645
Buffalo Gap	35	280
Burke	57	311
Bushnell	34	208
Butler	10	208
C		
Canastota	55	409
Canova	43	311
*Canton	62	2,103
Carter	50	390
Carthage	43	554
*Castlewood	32	594
Cavour	30	408
Centerville	61	971
Central City	13	296
*Chamberlain	51	1,275
Claremont	8	296
*Clark	21	1,226
*Clear Lake	33	704
Colman	45	362
Colome	50	275
Colton	56	407
Columbia	8	235
Conde	20	592
Corona	11	290
Corsica	59	286
Cottonwood	25	250
Cresbard	19	320
*Custer	35	602
D		
Dallas	57	1,277
*Deadwood	13	3,653
Dell Rapids	56	1,367
Delmont	59	369
*De Smet	31	1,063
Doland	20	581
Draper	39	211

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of South Dakota with 1910 Populations

Towns	*Loca.*	*Pop.*
E		
East Sioux Falls	56	268
Edgemont	46	816
Egan	45	516
*Elk Point	66	1,206
Elkton	34	742
Emery	54	446
Erwin	31	230
Estelline	32	509
Ethan	53	312
Eureka	5	961
F		
*Fairfax	57	590
*Faulkton	19	802
Ferney	8	266
*Flandreau	45	1,484
Florence	22	270
*Fort Pierre	25	792
Frankfort	20	408
Frederick	8	433
Freeman	60	615
G		
Garden City	21	300
Garretson	56	668
Gary	33	477
Gayville	64	257
Geddes	58	701
*Gettysburg	18	936
Greenwood	58	390
Gregory	57	1,142
Groton	8	1,108
H		
Harrold	27	230
Hartford	56	648
Hazel	32	229
Hecla	8	462
Henry	22	441
Herreld	4	414
Herrick	57	412
Hetland	31	223
*Highmore	28	1,184
Hill City	24	271
*Hot Springs	46	2,140
Hosmer	7	217
Hitchcock	30	259
Hoven	18	209
*Howard	43	1,026
Hudson	62	404
Humboldt	56	590
Hurley	61	506
*Huron	30	5,791
I		
*Ipswich	7	810
Irene	65	263
Iroquois	31	578
J		
Java	6	473
Jefferson	66	407
K		
Kadoka	25	222
Kennebec	39	252
Keystone	24	250
Kimball	51	713
L		
Lake Andes	58	920
Lake Norden	32	202
Lake Preston	31	1,007
Lamro	50	350
Lane	41	294
Langford	9	463
Lead	13	8,392
Lebanon	18	460
Le Beau	6	210
Lemmon	2	1,255
Lennox	62	745
*Leola	5	484
Lesterville	64	279
Letcher	42	402
Little Eagle	3	490
M		
*McIntosh	3	409
*Madison	44	3,137
Marion	61	462
Meckling	65	208
Mellette	20	472
Menno	60	621
Midland	25	210
*Milbank	23	2,015
*Miller	29	1,202
Missionhill	64	200
*Mitchell	53	6,515
Mobridge	6	1,200
Montrose	55	442
Morristown	3	222
Mt. Vernon	53	614
Murdo	39	372
N		
Northville	20	392
O		
*Oacoma	39	235
Oldham	31	355
*Onida	26	319
P		
*Parker	61	1,224
Parkston	60	970
Philip	25	578
Pierpont	10	314
Pierre (capital)	27	3,656
*Plankinton	52	712
*Platte	58	1,115
Pollock	4	304
Presho	39	635
Q		
Quinn	24	225
R		
*Rapid City	24	3,854
Raymond	21	241
*Redfield	20	3,060
Revilo	23	332
Rockham	19	286
Roscoe	7	357
Running Water	63	200
S		
St. Lawrence	29	305
*Salem	55	1,097
Scotland	63	1,102
*Selby	6	558
Seneca	19	321
*Sioux Falls	56	14,094
*Sisseton	11	1,397
South Shore	22	335
Spearfish	13	1,130
Spencer	55	506
Springfield	63	675
Stickney	52	310
Stockholm	23	209
Stratford	8	300
*Sturgis	14	1,739
Summit	11	545
T		
Tabor	63	273
Terraville	13	560
Terry	13	506
Timber Lake	16	211
Toronto	33	424
Trent	45	200
Tripp	60	675
Tulare	20	250
Turton	20	240
*Tyndall	63	1,107
V		
Valley Springs	56	331
*Vermilion	65	2,187
Viborg	61	410
Vienna	21	453
Volga	34	568
Volin	64	286
W		
Wagner	58	964
Wakonda	65	326
Wallace	22	207
*Watertown	22	7,010
Waubay	10	803
*Webster	10	1,713
Wentworth	44	329
Wessington	30	576
*Wessington Springs	41	1,093
White	34	468
Whitehorse	16	960
White Lake	52	507
White Rock	11	368
Whitewood	13	390
Willow Lake	21	437
Wilmot	11	427
Winfred	41	243
*Winner	50	360
Wolsey	30	436
*Woonsocket	42	1,027
Y		
*Yankton	64	3,787

SOUTH DAKOTA

Celebrated for its Former "Indian Wars," Its "Hot Springs," Its "Deadwood" and Its "Black Hills."

In the investigation of a region of the country with a view to permanent settlement therein it is necessary that **care be observed** not to let **rumors,** sentiment or prejudice influence the individual.

A newspaper **report** of yellow fever prevailing in a certain region will deter **thousands of people** from contemplated emigration into that section. The report may be **mere rumor,** but even, if true, yellow fever is but a **temporary** affliction which time will remedy. Many thousands of people refused to locate in Chicago in an early day because cholera was there at **one time.**

A case of smallpox in a town through sensational advertising in the newspapers, will so frighten people from going to the town where the case is **said** to exist as to injure business for weeks and months in that town, whereas **possibly** the scare was only from a rumor, but even if smallpox **did** exist it was **only** a temporary matter.

ABOUT BLIZZARDS.

And so from time to time the papers will convey to the people in large headlines the startling information that **blizzards,** deep snows and **coal famine** have overcome the people of Dakota and thousands are perishing. Many people are liable, from these reports, to believe that a country thus subject to terrific winds and cold, is unfit for habitation. And so as many people turned aside from Chicago, because of cholera and went **around** Indiana because of fever and ague, and **lost the opportunity** for profitable investment so people, on mere rumor, and large headings in news items will become so unfavorably impressed with a region of country or a state as to cause them to often **lose golden** opportunities. This is particularly true of both North and South Dakota. The two states comprise an empire within themselves, 18 times larger than Massachusetts. In all that **immense territory** there is liable to be unusual weather, sometimes, and delay in transportation which people **should understand** is but temporary.

WHAT THE HOME-SEEKER WANTS.

What the land-seeker is **searching** for is a region of the country where **health** may be maintained, and where a **reasonable profit** may be obtained from the soil which he buys.

It is the **ambition** of most men to get situated on a tract of land that will afford a **good support** for the family and something more. That "something more" is largely a matter of imagination. It means certainly a sufficiency of food, dress, a comfortable home, education, reasonable amusement and some travel. **All this** should come out of the farm. **That** farm is what the land-seeker is after.

WHAT OUR READERS NEED.

It is for that reason that we lay before the reader the **merit,** and the **opportunities** which exist in all regions, that he may have the **largest** possible chance to make a good selection of soil, climate, location, manufacturing opportunities as an aid in getting ahead and **general advantages** in acquiring wealth.

South Dakota **is** so **large** a state as to have great variety of soil and it **is** so **young** yet as to give **many opportunities** for the acquisition of wealth. For example: The Missouri River flows nearly through the middle of the state from north to southeast, and **all that portion** of the state west of that river, is unopened as yet to much white settlement. That area of the state west of the Missouri, comprises about 40,000 square miles—a state within itself, **190 miles** wide and **245 miles** in length from north to south.

All that part of South Dakota has **yet to be opened** to close settlement, and that was just beginning in 1907 by the Northwestern railway running a new line from Pierre, the capital of the state, a distance of about 160 miles. This road begins in Stanley county and ends in Pennington county.

South Dakota Opportunities in Agriculture and Varied Enterprises

OPENING A NEW REGION TO SETTLERS.

This new line opens up a **new region** that contains thousands of square miles of grazing land of the **finest quality,** and places it in **immediate** connection with the outside world.

It is a fact, conceded by the best authorities, that this open range west of the Missouri river, has a greater rainfall, richer soil, milder winters, more pleasant summers and **natural resources** of greater extent than are available in portions of Europe, in which dwell 100,000,000 of people, and where farm lands are worth from **$100 to $800** per acre.

The area of the region to be opened up by the new line of railway is extensive, there being in Stanley county **alone** more than **forty-eight** hundred square miles.

The general surface of the country is **rolling,** and throughout the **high** rolling region are beautiful level plateaus. The small streams are much more **numerous** than in any other part of the state. The Cheyenne river and the Bad river traverse this section from west to east.

NEW RAILROAD STATIONS AND NEW TOWNS.

There will be **sixteen** new **stations** opened on the **new line** between Pierre and Rapid City, and at a large number of these points new towns will be opened under the auspices of the railroad company.

The company announce in the establishment of these new towns, that as fast as the construction of the road is completed, town lots will be disposed of at low rates and attractive opportunities offered for establishing various lines of business.

We **advise** the reader in search of **new lands** and openings for **business** to keep an eye on the operations of the Chicago and Northwestern Railroad in Dakota, and if no desirable opportunity for **immediate** investment offers go through to Rapid City on the new line and **see** what chances are presented in the irrigation works which are reclaiming and irrigating over 100,000 acres of land, in the Belle Fourche River Valley a little northeast of the Black Hills.

This land being **irrigated** is thrown open to settlement under the United States Homestead Laws, the settler paying **$3.20 per acre** for ten successive years, gains **full title** to the land and **perpetual** title. The government will sell 80-acre farms at that rate, but within one mile of a town site they sell but 40-acre tracts.

EXCELLENT MARKETS IN WHICH TO SELL.

Land seekers should **understand** that the thickly settled Black Hills mining district always will be one of the best markets to be found in the United States.

The Black Hills cover an area **60 miles wide** by **100 miles long** and are called **black** because covered with a dark Norway pine. They are a black-blue, and in the shadow of a cloud they turn to an intense black.

This **mystic region** thrown up in the midst of the plains by some giant upheaval of past ages, has been known since the time of the **earliest** aborigines for its health giving air and medicinal waters.

ABOUT THE BLACK HILLS.

So far as **known** the region was not visited by white men until after 1825, but prior to **that time** roaming Indians, who came to white settlements, told wondrous stories of the Black Mountains or spoke of the "Shining Hills" and the "Happy Place" and the richness of the grass and abundance of the **game** found there. They also told of gold and silver, and of treasure that their ancestors had guarded for centuries, all of which were, according to their descriptions, isolated from the surrounding country by a vast and dangerous desert. Their tales served but to arouse the intense desire of the restless frontiersmen to reach and investigate this wonderful region.

In the meantime, through all these disclosures, the whites were **warned** that the Indians closely guarded their treasures, and that it would be **dangerous** for them to trespass on these Indian lands. Notwithstanding these warnings, the records show that a party of **seven prospectors** in 1833, visited the region and were stealthily followed by the Indians, who massacred **all** the number but one. This man was finally caught and killed, near the present site of Spearfish and his **gold sold** to the Hudson Bay Company for **$18,000.**

WARS AMONG INDIAN TRIBES.

But however much the **white man** is disposed to kill to obtain gold, the **Indian is just as much** so, even among his own race. From time immemorial the Cheyennes **held** the Black Hills, but finally in **a** tremendous **three days'** hand-to-hand **conflict** on Battle Mountain, overlooking the vale of Minnekatahta, in which Hot Springs is located, the Sioux practically **annihilated** their old-time enemies, men, women and children, and **held** for their own until the white man came, a territory of some **43,000 square miles,** with the Black Hills as a center.

The first organized **exploring party** to visit the Black Hills was that under **General Harney** in 1855; succeeding which **General Custer,** with about 1,000 U. S. troops, from Abraham Lincoln Fort on the Missouri river, made a sixty-day **exploring expedition** to the Hills in 1874.

GENERAL CUSTER'S DEATH.

In the expedition of **General Terry** against the Sioux Indians in Montana, in 1876, Custer **divided** his regiment at the Little Big Horn river, in order to attack the Indians on two sides, but he and his whole regiment **were killed** June 25, 1876. Custer became the name of a town in the Black Hills and **several counties** of the new states in the west bear that name.

Three years **after** Custer's expedition to the Hills General Crook, in behalf of the government, gave the Indians $4,500,000 for their rights and **Sitting Bull** and his warriors were **removed** to other territory.

FIRST GOLD FROM THE BLACK HILLS.

The first gold in the Hills was panned July 3, 1874, at a point about one mile east of the present town of Custer, by H. N. Ross, a resident of Custer, who at **that time** was General Custer's chief of scouts. Today there are more than **200 mining companies** operating in the Hills, employing more than **5,000 miners,** whose annual earnings exceed **$6,000,000,** while in the industrial branches connected with mining and other interests, are **7,500 more,** including about **1,500** engaged in the lumber industry.

Since 1876 the gold production of this district, up to 1905, was $140,000,000 and still there is **no cessation** in the discovery of new and legitimate properties. Output, 1911, $7,625,500.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude. Highest in the state, Harney's Peak in Bennington county in the Black Hills, 7,368 feet.

Climate. Average annual temperature at Deadwood, 42.1; at Pierre, 45. Average January at Yankton, Yankton county, 13 above; July, 74; in the Black Hills, June, July and August, 62, and 332 sunny days during the year. Extremes of temperature at Yankton, warmest, 107; coldest, 34 below. Yearly rainfall 26.8 inches.

Dimensions. Length of the state, from north to south, 245 miles; breadth, from east to west, 380 miles. Area, 77,650 square miles.

History. Territory originally a part of the Louisiana purchase of 1803. Explored by Lewis and Clarke in 1804-5. Fort Pierre built by Pierre Choteau of St. Louis, near present site of Pierre, 1829. Settlements made at Sioux Falls, 1856, and at Yankton, 1859. First legislature at Yankton, 1859. Dakota made two states, North and South Dakota, 1888. Admitted to the Union, 1889.

THE BLACK HILLS, SOUTH DAKOTA.

From Circular Issued by C. & N. W. R. R. Pass. Dept.

In the southwest corner of South Dakota and the northeastern portion of Wyoming, their sides covered with dark pines and their surface crossed and recrossed by the many streams which unite to form the two forks of the Cheyenne River, are the Black Hills. Their picturesque slopes, **dark and shining,** rise in striking contrast to the vast and rolling prairie which surrounds them on all sides, and enclose a region **rich in gold and silver,** well timbered, well watered, and possessed of a climate unusually attractive, free from extremes of heat or cold, with a bracing and invigorating air that is **famous** for its health-giving properties.

In fact, in addition to its mining interests, the Black Hills region forms one of the **greatest natural sanitariums** in the world.

The pure air and happy combination of right altitudes with medicinal waters, join to make it a **noted health resort.** It is but thirty-seven hours' ride from Chicago and that places it within easy reach of the principal centers of population.

This mystic region, thrown up in the midst of the plains by some giant upheaval of past ages, has been known since the time of the earliest aborigines. It occupies an area about **sixty miles** wide and **one hundred miles** long. Surrounding it on the north, east and south are prairie lands whose succulent grasses make them especially suitable for the grazing of cattle, and of such extent that their outer rim encloses an **area greater** than that of Great Britain, Germany and France; a region which is rich in promise to the farmer, cattleman and ranchman. It is estimated that the water supply available in this region is sufficient for the irrigation of **millions of acres** of lands. Much irrigation development work is now being done, the government irrigation at Belle Fourche being especially important.

This rolling prairie land surrounding the hills is broken here and there by square and flat-topped buttes, with the grass land stretching far away to the mountain eminences. The streams which cross the levels or break down through the gorges are **clear as crystal.** Many of the lesser buttes near these streams are turfed over their summits, and the table-lands raise high their **surfaces covered** with nutritious pasturage.

WHY THE HILLS ARE CALLED "BLACK."

Beyond this level district are the Hills, clothed with Norway pine that gives them a **color of deepest blue,** the blue of the California plum; hills so dark that a cloud before the sun will turn them to **an intense black** against a sky that seems to twinkle with electric flashes. On these beautiful hills one may stand and, looking far across the plains, see in the distance the buttes of Bear, Slave, Crow, Deer's Ears, Topknot and Lodge, while **nearer at hand** one valley rises above another, each turfed and green, forming long serpentine belts that stretch their way among the trees of darker foliage.

THE HISTORY OF THE HILLS.

Black Hills history dates back more than three centuries to the time when the Cheyennes jealously guarded the region as a **hunting resort,** and as a place where the Great Spirit had mysteriously bestowed health-giving powers on the air and had given unusual **medicinal value** to the water. The natural formation of the region made the Hills well-nigh impregnable, and the Indians held the place in great awe, guarding with **jealous care** the health-giving springs, the wonderful pine-covered slopes and the stores of precious metal contained within the mountains.

The Cheyennes held the Black Hills as their own until after a tremendous **hand-to-hand** conflict on Battle Mountain, overlooking the Vale of Minnekahta, in which Hot Springs is located. Here the **Sioux practically annihilated** their old time enemies, and held for their own, until the white men came, a territory of some 43,000 square miles, with the **Hills as a center,** driving from their newly won empire the fur traders who had trapped and traded along the small streams which form the Cheyenne.

FIRST EXPLORATION.

The first organized exploring party to visit the Black Hils was that under Gen. Harney in 1855, in which year it was followed by that of Lieut. Warren, of the U. S. Topographical Engineers, who made three surveys of the Hills.

After Gen. Harney's visit, interest in the Black Hills grew rapidly, until, under **instructions from Gen. Sheridan,** Gen. Custer left Fort Abraham Lincoln, on the Missouri River, opposite the present site of Bismarck, N. D., June 2, 1874, and with about 1,000 U. S. troops made a sixty-day exploring expedition. Returning, he issued a report as to the natural wealth of the region, which, while couched in the most conservative terms, created intense interest in the west and the following winter found several **parties of prospectors** in the Hills, including some of those who had accompanied Custer's party.

Finally, three years after Gen. Custer's expedition, Gen. Crook compromised with the Indians as to the purchase of their lands, and the Government paying them **$4,500,000 for their rights,** Sitting Bull and his warriors were removed to other territory and the cavalry forces withdrawn. The trail of the mountain sheep and the path of the Indian were widened into wagon roads, the **region thrown open** to white settlement, and the way opened for the building of The North-Western Line, the pioneer railway into the Hills.

There must be pioneer railways as well as pioneer explorers, and as soon as the development of the region justified, the North-Western Line pushed into the heart of the Hills, reaching them in **1885** and completing the line to Rapid City in 1886, and to Deadwood and **Hot Springs in 1890.** Thus was the entire region made readily accessible to the traveler from Omaha, Council Bluffs, Sioux City and Chicago, St. Paul and Minneapolis, St. Louis and Kansas City, and railway trains traversed **the gulches** where Sitting Bull's braves had camped and where scouts and prospectors had made their courageous way in the days gone by.

This pioneer line of railway has developed steadily until now it is one of the great arteries of western travel. **A new line has also been added** to the North-Western's direct connection with the Hills, extending from Rapid City across Dakota, crossing the Missouri at Pierre and forming a direct route to St. Paul, Minneapolis and Duluth, and to Chicago and Milwaukee.

CLIMATE.

The climate of the Black Hills district is equable, abounding in sunshine; and with a fine natural drainage, there is **unusual freedom** from dampness. The air is invigorating, being surcharged with ozone from the surrounding **pine forests.** The elevation of about 3,000 feet above the sea level adds to the desirability of the climatic conditions. The **dryness of the air** is particularly marked—so much so, that the eye of the visitor is at once attracted by the clear and scintillating qualities of the atmosphere. It is to this especial dryness and purity that the **blueness of the skies,** equal to that of Italy, is attributed.

The summmer, with its clear days and cool nights, extends into the late autumn, and it is not uncommon for camping parties to remain out in the sheltered nooks of the mountains until **late in October.** Sleeping under blankets is the invariable rule, even during July and August; and during the summer a day without sunshine is **practically unknown.**

The principal rainfall usually occurs early in the season, so that **one may plan** with a reasonable degree of certainty upon consecutive days and weeks of fair weather.

Because of the height of the Hills and the protection afforded by them, the region is **never troubled** with wind storms; only the most moderate breezes prevail within the boundaries of this enchanted land.

TROUT FISHING.

Throughout the entire Hills country are numbers of mountain streams in which there is **excellent trout fishing.** Brook trout, rainbow and salmon trout are caught by the fisherman regularly throughout the season, which extends from the first of May to the first of November.

Excellent fishing may be found **within a day's drive** of one's hotel and on the upper reaches of the Bear Butte, Castle Creek, Big and Little Rapid, Spearfish and other streams, picturesque and inviting places are found where **summer camps** may be made, cabins built and fishing indulged in under the most favorable conditions of out-door life.

HUNTING.

The mildness of the winter season makes the Hills a paradise for the hunter. There are deer, bear, wild cats and other big game in season, and partridge, pheasants, plover, ducks and geese are fairly abundant. For deer and elk the **open season extends** from the first to the thirtieth of November. With the excellent protection afforded by the game regulations now in force, the deer are steadily increasing in number, and a hunter of even mediocre ability should be able to bag his quota of three.

One may also find wolves, silver foxes, coyotes and an occasional bear.

The **season for ducks** and geese opens on September 10th and closes on April 10th.

HOT SPRINGS.

Hot Springs and its surroundings call for **special attention** from the visitor to the Black Hills.

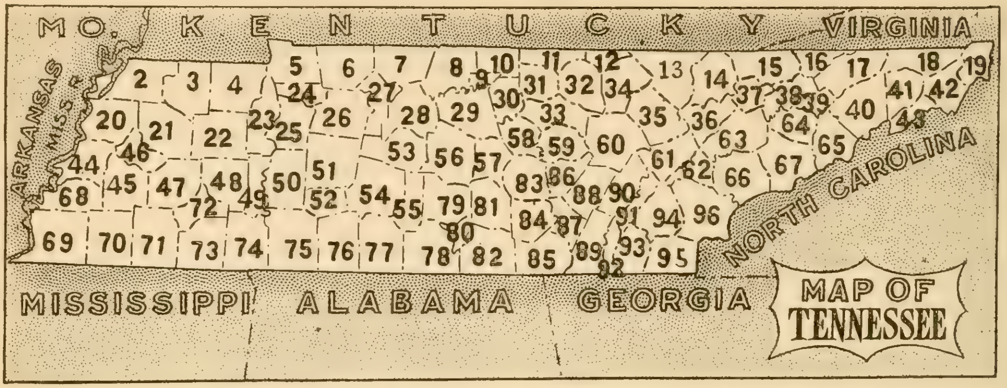
The town, with a summer population of about 3,500, is situated at an altitude of 3,400 feet above the sea.

Almost **one hundred** thermal springs found here have formed the central feature of the place for more than **three centuries;** an ancient Indian village, it is said, formerly having been located in the valley near the site of the present town.

At the Minnekahta Spring a stone bath tub, moccasin shaped, is shown, which is said to have belonged to the Indians in the days of their supremacy, when **they used the water** for their ailments without really understanding how or why speedy cures were effected. The Indians are **still fond** of this spot once their own, and parties of them are often permitted to spend a few days here away from the reservation, to the great delight of interested tourists and sight-seers.

STATE AND THE 96 COUNTIES OF TENNESSEE

With Their Boundaries



LOCATION AND 1910 POPULATION OF TENNESSEEE COUNTIES

Loca.	*County*	*Pop.*
1	Lake	8,704
2	Obion	29,946
3	Weakley	31,929
4	Henry	25,435
5	Stewart	14,860
6	Montgomery	33,672
7	Robertson	25,466
8	Sumner	25,621
9	Trousdale	5,874
10	Macon	14,559
11	Clay	9,009
12	Pickett	5,087
13	Scott	12,947
14	Campbell	27,387
15	Claiborne	23,504
16	Hancock	10,778
17	Hawkins	23,587
18	Sullivan	28,120
19	Johnson	13,191
20	Dyer	27,721
21	Gibson	41,630
22	Carroll	23,971
23	Benton	12,452
24	Houston	6,224
25	Humphreys	13,908
26	Dickson	19,955
27	Cheatham	10,540
28	Davidson	149,478
29	Wilson	25,394
30	Smith	18,548
31	Jackson	15,036
32	Overton	15,854
33	Putnam	20,023
34	Fentress	7,746
35	Morgan	11,458
36	Anderson	17,717
37	Union	11,414
38	Grainger	13,888
39	Hamblen	13,650
40	Greene	31,083
41	Washington	28,968
42	Carter	19,839
43	Unicoi	7,201
44	Lauderdale	21,105
45	Haywood	25,910
46	Crockett	16,076
47	Madison	39,357
48	Henderson	17,030
49	Decatur	10,093
50	Perry	8,815
51	Hickman	16,527
52	Lewis	6,033
53	Williamson	24,213
54	Maury	40,456
55	Marshall	16,872
56	Rutherford	33,199
57	Cannon	10,825
58	De Kalb	15,434
59	White	15,420
60	Cumberland	9,327
61	Roane	22,860
62	Loudon	13,612
63	Knox	94,187
64	Jefferson	17,755
65	Cocke	19,399
66	Blount	20,809
67	Sevier	22,296
68	Tipton	29,459
69	Shelby	191,439
70	Fayette	30,257
71	Hardeman	23,011
72	Chester	9,090
73	McNairy	16,356
74	Hardin	17,521
75	Wayne	12,062
76	Lawrence	17,569
77	Giles	32,620
78	Lincoln	25,908
79	Bedford	22,667
80	Moore	4,800
81	Coffee	15,625
82	Franklin	20,491
83	Warren	16,534
84	Grundy	8,322
85	Marion	18,820
86	Van Buren	2,784
87	Sequatchie	4,202
88	Bledsoe	6,329
89	Hamilton	89,267
90	Rhea	15,410
91	Meigs	6,131
92	James	5,210
93	Bradley	16,336
94	McMinn	21,016
95	Polk	14,116
96	Monroe	20,716
	Total	2,184,789

Tennessee Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
Adams	7	542
Adamsville	73	709
*Alamo	46	340
Alexandria	58	866
Allardt	34	325
Allens Creek	75	490
Altonpark	89	462
Anderson	82	302
Arcadia	18	206
Arlington	69	477
Arthur	15	202
*Ashland City	27	641
Ashport	44	662
Aspen Hill	77	226
*Athens	94	2,264
Atoka	68	250
Atpontley	88	420
Atwood	22	200
Avondale	89	1,066
B		
Baileyton	40	250
Ballcamp	63	209
Barr	44	260
Bartlett	69	263
Baxter	33	220
Beardstown	50	260
Bear Spring	5	562
Bellbuckle	79	466
Bells	46	753
Bemis	47	650
*Benton	95	290
Bethel Springs	73	290
Big Sandy	23	380
Binghamton	69	1,673
Blanche	78	250
*Blountville	18	224
Bluff City	18	540
*Bolivar	71	1,070
Bon Air	59	517
Boyce	89	5,066
Bradford	21	520
Briceville	36	1,354
Brighton	68	214
Bristol	18	7,148
*Brownsville	45	2,882
Brunswick	69	250
Brushy Mountain	35	858
Buntyn	69	590
Burns	26	220
Butler	19	499
C		
Cainsville	29	202
Calhoun	94	222
*Camden	23	692
*Carthage	30	904
Caryville	14	250
Cedar Hill	7	590
*Celina	11	312
*Centerville	51	1,097
Charleston	93	426
*Charlotte	26	236
*Chattanooga	89	44,604
Chestnut Mound	30	224
Clairfield	15	200
Clarksburg	22	226
*Clarksville	6	8,548
Clearwater	90	326
*Cleveland	93	5,549
Clifton	75	711
Clifty	59	596
*Clinton	36	1,090
Coal Creek	36	1,102
Coalfield	35	362
Coalmont	84	250
Collierville	69	802
*Columbia	54	5,754
Concord	63	530
*Cookeville	33	1,848
Copper Hill	95	1,520
Cornersville	55	290
Cottagegrove	4	215
*Covington	68	2,990
Cowan	82	624
Crab Orchard	60	390
*Crossville	60	763
Culleoka	54	334
Cumberland City	5	490
Cumberland Furnace	26	390
Cumberland Gap	15	347
D		
Daisy	89	310
*Dandridge	64	447
Darden	48	220
*Dayton	90	1,991

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Tennessee Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
*Decaturville	49	326
Decherd	82	1,022
Denmark	47	360
Dickson	26	1,850
Difficult	30	280
Dixon Spring	30	250
*Dover	5	460
Dowelltown	58	233
Doyle	59	226
*Dresden	3	708
Ducktown	95	1,503
*Dunlap	87	1,166
Dyer	21	1,166
*Dyersburg	20	4,149
E		
Eagleville	56	317
East Chattanooga	89	5,062
Eastlake	89	250
Eastland	59	334
*Elizabethton	42	2,478
Elk Valley	14	290
Embreeville	41	306
Englewood	94	622
*Erin	24	942
*Erwin	43	1,149
Etowah	94	1,685
Evensville	90	200
F		
*Fayetteville	78	3,439
Ferro	76	226
Finley	20	304
Foresthill	69	652
Fork Ridge	15	362
Fosterville	56	309
Fountain City	63	506
Fowlkes	20	240
Foxbranch	16	224
*Franklin	53	2,924
Friendship	46	225
Friendsville	66	520
G		
Gadsden	46	229
*Gainesboro	31	408
*Gallatin	8	2,399
Gardner	3	258
Gates	44	293
Germantown	69	249
Gibson	21	250
Glass	2	250
Gleason	3	388
Glenmary	13	560
Golddust	44	220
Goodlettsville	28	1,060
Goodrich	51	358
Gordonsburg	52	422
Gordonsville	30	245
Grand Junction	71	491
Granville	31	227
Graysville	90	389
Green Brier	7	522
*Greeneville	40	1,920
Greenfield	3	1,596
Gruetli	84	390
Guelph	2	230
Guild	85	503
H		
Halespoint	44	280
Halls	44	882
Hampton	42	686
Harriman	61	3,061
Harrison	89	200
*Hartsville	9	1,028
Heiskell	63	220
Helenwood	13	360
Helmar	18	360
*Henderson	72	1,087
Hendersonville	8	215
Henning	44	582
Henry	4	260
Hickman	30	235
Hickory Valley	71	200
Highcliff	14	520
Hilham	32	226
Hill City	89	3,060
*Hohenwald	52	1,060
Holladay	23	260
Hollow Rock	22	263
Hornbeak	2	480
Humboldt	21	3,446
*Huntingdon	22	1,112
Huntland	82	480
*Huntsville	13	336
I		
Indian Springs	18	320
Inman	85	520
Iron City	76	321
Isabella	95	560
Isoline	60	253
J		
Jacksboro	14	834
*Jackson	47	15,779
*Jamestown	34	350
*Jasper	85	1,066
Jefferson	56	328
Jefferson City	64	2,026
Jellico	14	1,862
Johnson City	41	8,502
Johnsonville	25	328
*Jonesboro	41	806
K		
Kenton	2	815
Kerrville	69	220
Kimmins	52	362
Kingsport	18	350
*Kingston	61	824
*Knoxville	63	36,346
L		
*Lafayette	10	678
*Lafollette	14	2,816
La Grange	70	308
Laurel Bloomery	19	206
La Vergne	56	200
*Lawrenceburg	76	1,687
*Lebanon	29	3,659
Lenoir City	62	3,392
Lenox	20	520
*Lewisburg	55	1,830
*Lexington	48	1,497
Liberty	58	290
Limestone	41	220
Limestone Cove	43	206
*Linden	50	330
*Livingston	32	1,420
Lobelville	50	275
Lonsdale	63	2,391
Lookout Mountain	89	631
*Loudon	62	995
Lovedale	18	226
Luray	48	200
Luttrell	37	520
*Lynchburg	80	408
Lynnville	77	596
M		
McEwen	25	661
McKenzie	22	1,322
McLemoresville	22	360
*McMinnville	83	2,299
Mason	70	266
*Madisonville	96	736
*Manchester	81	963
Martin	3	2,228
Martins Mills	75	222
*Maryville	66	2,381
Macon	68	391
Maury City	46	250
Mayland	60	236
*Maynardville	37	220
Medina	21	320
Medon	47	250
Meeks	84	390
*Memphis	69	131,105
Mengelwood	20	326
Middleton	71	273
Milan	21	1,605
Milligan	42	336
Millington	69	554
Mohawk	40	320
Mount Eagle	84	632
Monterey	33	1,117
Montlake	89	225
Mooresburg	17	208
*Morristown	39	4,007
Moscow	70	211
Mosheim	40	498
*Mountain City	19	592
Mountain View	63	1,436
Mountpleasant	54	1,973
Mulberry	78	220
Mulberrygap	16	202
Munford	68	329
*Murfreesboro	56	4,679
N		
*Nashville (capital)	28	110,364
Newbern	20	1,602
Newcomb	14	497
New Market	64	702
New Middleton	30	291
*Newport	65	2,003
New Providence	6	821
New River	13	302
Norma	13	301
Normandy	79	304
Nunnelly	51	503
O		
Oakdale	35	202
Oakland	70	351
Obion	2	1,293
Oliver Springs	61	573
Oneida	13	504
Only	51	306
*Ooltewah	92	501
Orchard Knob	89	1,007
Orlinda	7	290
Orme	85	653
P		
*Paris	4	3,881
Park	63	5,126
Parrottsville	65	201
Parsons	49	697
Pearley	69	201
Petersburg	78	379
Petros	35	987
Philadelphia	62	302
Pickwick	74	351
Pigeonforge	67	202
*Pikeville	88	398
Pinewood	51	601
Pinson	47	264
Pioneer	14	225
Pisgah	77	207
Pleasantgrove	54	334
Pleasant Hill	69	227
Pleasant View	27	351
Portland	8	579
Powell Station	63	302
*Pulaski	77	2,928
Peryear	4	254
R		
Raleigh	69	241
Rathburn	89	1,173
Ravenscroft	59	481
Redboiling Springs	10	201
Rhea Springs	90	302
Riceville	94	401
Richard City	85	324
Ridgedale	89	1,503
Ridgley	1	519
*Ripley	44	2,011
Rives	2	468
Roan Mountain	42	301
Robbins	13	403
Roberta	13	202
Rockford	66	503
Rockwood	61	3,661
*Rogersville	17	1,242
Rome	30	301
Roope	85	204
Rugby	35	251
Ruskin	26	203
Russellville	39	205
Rutherford	21	766
*Rutledge	38	303
S		
Saint Clair	17	2,426
Saint Elmo	89	2,577
Saint Joseph	76	251
Sale Creek	89	486
Saltillo	74	354
Santa Fe	54	269
Sardis	48	435
Saulsbury	71	220
*Savannah	74	2,066
Scivally	80	202
Scotts Hill	48	251
*Selmer	73	529
*Sevierville	67	675
Sewanee	82	500
Shadeland	35	203
Shallowford	89	251
Sharon	3	608
Shawanee	15	201
*Shelbyville	79	2,869
Sherwood	82	405
*Smithville	58	647
Smoky Junction	13	260
Smyrna	56	215
*Sneedville	16	220
Soddy	89	1,173
*Somerville	70	1,387
South Fulton	2	1,391
South Pittsburgh	85	2,106
Southside	6	306
*Sparta	59	1,409
Speedwell	15	200
*Spencer	86	218
Spot	51	450
Spring City	90	1,039
Springcreek	47	226
*Springfield	7	2,085
Spring Hill	54	695
Stanton	45	526
Strathmore	76	220
Sugar Tree	49	262
Summertown	76	466
Sunbright	35	214
Sutherland	19	226
Sweetwater	96	1,850
Sycamore	27	226
T		
Talbott	64	226
*Tazewell	15	886
Teller	15	250
Tellico Plains	96	360
Thomastown	69	391
Thompsons	53	226
*Tiptonville	1	843
Toone	71	245
Townsend	66	836
Tracy City	84	3,020
*Trenton	21	2,402
Trezevant	22	526
Trimble	20	556
Troy	2	529
Tullahoma	81	3,049
U		
Unicoi	43	250
*Union City	2	4,389
V		
Victoria	85	259
Vonore	96	220
W		
Waldensia	60	526
Walnut Grove	74	520
Warner	51	660
*Wartburg	35	206
Wartrace	79	659
Watertown	29	517
*Waverly	25	947
*Waynesboro	75	357
Wellwood	45	209
Westmoreland	8	298
Westpoint	76	370
White Bluffs	26	419
White Pine	64	562
Whites Bend	28	230
Whitesburg	39	462
Whiteside	85	533
Whiteville	71	741
Whittle Springs	63	220
Whitwell	85	3,062
Wilder	34	302
Willette	10	250
*Winchester	82	1,351
Winona	13	350
Witts Foundry	39	250
*Woodbury	57	604
Woodland Mills	2	250
Wooldridge	14	606
Y		
Yorkville	21	326

CONDENSED IMPORTANT FACTS RELATING TO THIS STATE.

Altitude. Highest, Clingman's Dome in Sevier County, 6,619 feet.

Climate. State, average annual temperature of East Tennessee, 58; middle of the state, 58, and 59 in West Tennessee. Average January temperature at Nashville, 38; July, 80. Extremes, warmest, 104; coldest, 13 below. Yearly rainfall at Nashville, 50.1. Annual rainfall at Chattanooga, 55.

Opportunities in Agriculture and Varied Enterprises

FACTS ABOUT TENNESSEE.

Gathered From Literature Sent Out by Railroad Agents Who Travel in All Regions of This State.

The markets for all farm products are **convenient** and good.

The means of **reaching markets** by rivers and rail are ample.

Farm products bring generally the **very highest** prices when shipped to northern markets, because they reach those markets **early in the season** when the markets are bare. Two crops of potatoes are grown on **the same land** the same year.

The winters are **short**, the summers **long**, but neither winter cold nor summer heat is as great as in the northern States.

Building materials are cheap and abundant.

Farmers may **work out doors** in comfort every month in the year, and nearly every day in the year. A crop of wheat and a crop of corn may be harvested from the same land the same year.

Wheat frequently sells **twice as high** as it does in the northwest. It usually brings Chicago prices, with the freight added.

Corn, oats and hay sell **50 per cent higher** usually than they do in Illinois, Indiana, Ohio or Michigan.

MILLIONS OF ACRES WAITING FOR SETTLERS.

There are **16,000,000 acres** in the State **unoccupied,** and await the industry of skilled farmers to become the fairest agricultural region on the globe.

The same quality of lands that are sold for **ten dollars an acre** in Tennessee will sell for forty in Ohio.

A knowledge of Tennessee, with all its advantages, is only needed to fill it with **the best class** of immigrants. Every immigrant who settles in the State is anxious to bring his friends.

There are large **coal and iron fields** in the State, besides **forty-seven** other minerals which exist in workable quantities. The recent discovery of immense beds of **phosphate rock** makes Tennessee the center for the distribution of fertilizers of high quality. The use of these by the farmers of the State has, in many instances, **doubled the yields** of wheat and several other crops.

SOMETHING TO SELL EVERY MONTH.

Diversification of crops is carried on more largely in Tennessee than in any other State in the Mississippi Valley. A good farmer has **something to sell** in market every month in the year.

The average rainfall in the State of Tennessee for the past twenty-five years is **fifty-two inches** annually, and this is distributed in copious quantities during the growing season, so there is **never a failure** of crops.

Stock water and water for domestic purposes may be secured upon **every farm** either by the boring of wells, by natural springs, or by the making of cisterns.

The average number of days between killing frosts for the period of twenty-three years was **189.** This measures **the length** of the growing season. Corn may be planted from March until the middle of June, and have ample time to mature when planted at the latter date. A crop of **cowpeas** and a crop of **wheat** may be grown on the **same land every year** with a constant enrichment of the soil. Hogs may be fattened on cowpeas at a very low cost.

ABUNDANT WATER POWER IN ALL PARTS.

No State surpasses Tennessee in the advantages which it offers for a varied manufacturing industry. Water powers are numerous in every part of the State, but especially on the line of the Nashville, Chattanooga & St. Louis Railway. White, Warren and Coffee counties, on the McMinnville Division, are singularly favored in this respect.

A farmer is not compelled to **give half his labor** in order to make feed enough to take his live stock through the winter.

Crops of all kinds **mature earlier** in the South, and with the excellent facilities for shipment, may be sent to the great cities of the North, where they will find a scarce and dear market.

Southern farms, equally as good as those in the North, may usually be bought for **one-third the price,** and sometimes less.

A LAND OF HOMES.

Tennessee is blessed in everything that goes to make happy and permanent homes. There are **no blizzards** in winter; **no simoons** in summer; **no terrific wind storms; no epidemics; no scarcity** of food; plenty of **schools;** plenty of **churches;** fruits on every hand; green grass; luxuriant shade trees; **beautiful brooks** and creeks and everything in nature to make the home surroundings pleasant, attractive and beautiful.

The healthfulness of the Central Southern States, and especially of the **upland regions of Tennessee,** Alabama and Georgia, may be ascertained by referring to the low death rate reported for these regions in the eleventh census.

Great Profits.—Upon the land offered for settlement to immigrants **one single crop of tobacco** grown on four acres of fresh land, cultivated by one man, in one year will pay for forty acres of the land. A crop of peaches often brings $200 per acre.

CROPS AND WEATHER OF WEST TENNESSEE.

Throughout the West, Northwest and Middle West there is now a disposition on the part of farmers to dispose of their holdings and **immigrate** to a milder climate. Hundreds of letters come to this office inquiring if there is in the South **a section of country** where staple farm crops are successfully grown; where dairying, cattle and hog raising are carried on profitably; where peaches, cherries and apples are grown as in Indiana, Ohio and Michigan, and where the **climate** is considered **medium,** neither too hot nor too cold.

The object of this folder is to furnish just such information and to emphasize the advantages of West Tennessee in furnishing precisely the conditions demanded by those who would grow practically the same products and engage in the same kind of farming in which they have been successful in the more Northern States.

West Tennessee enjoys a mild winter; sometimes a few inches of snow remain on the ground for a short time only. White frosts such as are found in November in the Northern States are common in West Tennessee during the winter months. These **mild winter conditions** are healthful and are greatly enjoyed by those who have been accustomed to the rigorous winters of the North.

SOUTH MIDDLE TENNESSEE.

The **"Plateau Land,"** the great Central Basin of this section, consists of lessening elevations of the Appalachian Mountains as they descend toward their foothills and are at last succeeded by the more level stretches, **extending to the shores** of the Gulf of Mexico. Here we are free from the extremes which often render sections undesirable. The winters are **seldom** of a character which are hurtful to man or beast; destructive "Northers," which afflict disastrously many parts of the West and Southwest, are **unknown.** Throughout this Plateau Region life flows peacefully and the years **come and go free** from those events which, when occurring, make for terror and great loss, both of property and life.

The summers are no hotter than in Illinois, Michigan or Minnesota; longer only, the heat not nearly **so intense** and certainly never so uncomfortable. In point of fact, neither fatal heat attacks nor sunstrokes are known. The **nights are always cool,** however hot the day may be. It is to be borne in mind that it enjoys elevation, the altitude averaging something like **1,000 feet** and gives abundant proof that at one time it was the **bottom of a great lake,** it being surrounded by a rim or watershed.

CLIMATE COMBINES SUNSHINE AND RAIN.

The climate combines sunshine and rain, cold and warmth, in such proportions as to produce the **highest degree** of perfection in the greatest number of crops. The productions of both the Northern and Southern states here meet. It is the climatic happy medium of the United States. Just **cold enough** during the winter months to invigorate the physical system, ameliorate the soil and destroy the germs of disease. Just sufficient heat in the summer months to produce rapid growth of vegetation and a heavy yield in crops. There are but few days during the year in which one is prevented from performing in comfort out-door labor.

As to the **crops of this region,** it may be broadly stated that they include **every crop** grown in and incident to the temperate zone. **Cotton** is widely regarded throughout the North as the only crop on which the Southern agriculturist relies; it is, practicaly, a **side issue of this section;** while there is a large amount raised in this section, it is by no means the backbone of the farmer's hopes. Corn, oats, rye, barley, potatoes, tobacco, wheat, do well. Corn comes more nearly being the standard of this county. Wheat in some parts yields as much as forty bushels to the acre; that amount, however, is above the average.

It should be borne in mind that with **high farming** and good culture, the yield of these crops would be increased two or **three times** what is done under the slip-shod farming as is practiced in some parts of the South.

Opportunities in Agriculture and Varied Enterprises

TENNESSEE

AN OLD STATE WITH WORN-OUT SOILS WHICH CAN BE RENOVATED AND MADE HIGHLY PROFITABLE

Dimensions. Length of state, north and south, 120 miles. Extreme width, 430 miles. Area, 42,050 square miles.

History. Immigrants from North Carolina entered East Tennessee in 1754. Organized as a Territory in 1794. Admitted as a state in 1796. Knoxville was the capital in 1796-1811; Nashville in 1812-1815. Murfreesville the capital in 1816-1826 and Nashville was made capital in 1826.

Our map shows that this is a long and narrow state. Topography reveals that there is **much difference** in the elevations of its various portions, and geology indicates that great **variety** in constituents of soil exist between the eastern, middle and western parts of the state.

EIGHT DISTINCT PARTS OF THE STATE.

Topographically, Tennessee is divided into **eight** quite distinct parts, being the **Appalachian** chain of mountains on the eastern border. Adjoining on the west is the **Cumberland** table land, and between this and the mountains is the **Valley** of East Tennessee, one of the most important agricultural regions. Next comes the Cumberland **table land,** an elevated plateau, **2,000 feet** above the sea and 1,000 feet above the valley of East Tennessee. Then next, **west** of this table land, and extending **westward** to the Tennessee River, come the highlands or **terrace lands,** having an elevation of **1,000 feet** above the sea. In the center of these is the great central basin resembling the **bed of a lake** which has been drained.

The soil of this valley is **naturally** fertile, and here can be grown in abundance **all the crops** natural to this latitude.

Next follows the narrow valley west of and sloping to the Tennessee River, to the westward of which is the plateau of the Tennessee, another naturally rich, **easily cultivated** soil. The **eighth** and last division is the **bottom land** of the Missisippi, a low, flat, alluvial plain, which exhibits **rank growth** of all kinds of agricultural production.

A WARNING TO LAND SEEKERS.

The home seeker who enters this state in quest of land should understand that the naturally fertile soil **in many places** in Tennessee has been **worn out.** It was cropped for fifty years before the Civil war and, as virgin soil, yielded good crops. Along with cultivation of the soil, and **very poor** cultivation by negro slaves, the forests were cut away and hundreds of thousands of acres, after cutting the trees, was annually **burned over** to prevent undergrowth, and develop **pasturage,** the result being that with numerous seasons of drouth the **timber lands** have become barren.

With the war came on general **neglect** of the cultivated fields, no fertilization was given to the land and the crop **yield** was less and less each succeeding year. Then followed the years of **impoverishment** among all the owners of Tennessee land and the cultivating of the soil to get the utmost returns from it and give just as little as possible back in payment for the meager crops they took away.

Thus, vast **areas** of Tennessee land has been cropped so closely and drained of its last vestige of fertility so completely that, no longer worth cultivating, it has been **abandoned** as worthless, as is the case in great quantities of other land in the old slave-holding states.

We mention this to **warn** land seekers that they may not be deceived in the purchase of worn-out land. We are not cautioning them **against** buying land. We are simply telling them conditions that they may be **on their guard** and pay for this land what it is worth and **no more.**

HUNT OUT THE POOR SOILS.

And right in this connection it is well for the land seeker to **hunt out** this run down land and, if well located with fair buildings, buy this property and restore the land. Buy it for what it is worth and **renovate** the soil.

Buy this worn-out land, or, perhaps better, before buying open communication either by personal visit or by letter with the Agricultural Experiment Station at the University of Knoxville, Tenn. The authorities of that institution will give the land seeker the **exact facts,** where the land **is** which has been **abandoned;** what it is **worth** and what the **instructors** connected with that institution **are doing** in the renovation of land in that state.

It is a fact not generally known that the reason of **westward emigration** is largely because fertility of soil in the old farm becomes exhausted and there has been a constant endeavor, beginning on the Atlantic coast, to get upon more prolific soil—new **fertile** land a little farther west. And so the **westward** move has been constantly going forward to get new and a little better land further west.

EMIGRATION TURNING EAST.

At last the tide of emigration is beginning to **turn back** and the taking up of old homesteads with its exhausted soil is becoming common.

This change has been largely brought about by the Agricultural Experiment Stations which **are teaching** that, through scientific treatment, soils exhausted of fertility can be renovated.

The establishment of the Experiment Station in agriculture had become an imperative necessity. It was believed for a long time that the new soils of the west **could not** be exhausted of their strength, but it is being discovered that other means of tillage must be adopted on all soils that they may retain their strength.

BUYING EXHAUSTED SOILS MAY BE PROFITABLE.

With the **knowledge** at hand of how to **renovate** soils it is possible for land seekers to buy run down and abandoned farms, restore the soil to fertility again, put old buildings in order, improve lawns and grounds upon the premises, make the farm **profitable** and **sell** at a large profit. The renovation of land improvement of old properties is a business in which men of enterprise can safely and profitably engage.

By addressing the State University through correspondence with these institutions, the agents can be found who will send the reader a list of cheap farms, largely in Eastern states upon which experiment care is being made to improve the properties.

HOW SOIL IS MADE.

When the crust of this earth was being finished it was largely a mass of rock. In the thousands of years of its existence the **rains and floods** have worn these rocks into fine particles which settled into hollows between elevations and **made soil** such that vegetation could be generated and find existence in this soil. The vegetation thus grown lived its appointed time, died, decayed, and on the soil where it grew it has made other soil that could produce more vegetation similar to that which has grown before. If this decayed vegetation was on level surface and not easily washed away it made a deep rich soil capable of reproducing the yield of vegetation for many years. But if, as fast as the crop has been grown, it has been taken away from the land and nothing was given back to the soil to aid in reproducing another crop the means of reproduction have become exhausted and the soil is what we call **worn out.**

TECHNICAL TERMS IN GEOLOGY.

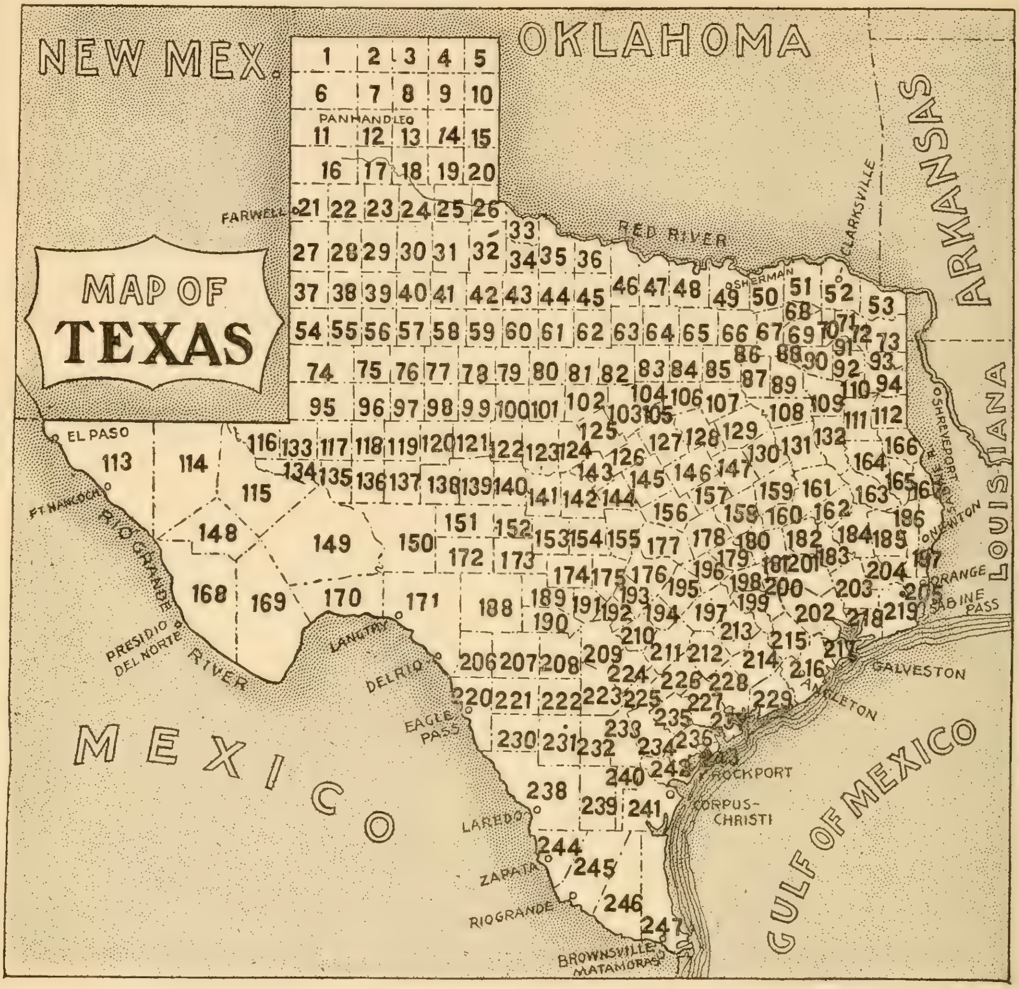
The process of renovating, fertilizing this land so that it will yield abundant crops again, we treat in another chapter of this work. To get full information on renovating worn out land, write to Department of Agriculture, Washington, D. C. In considering the subject of renovating worn out and exhausted soil we have endeavored to eliminate as much as possible the technical, scientific words of which geological language is so full.

In a study of soil, from a scientific standpoint, the young farmer immediately runs on to the words hydrochloric, carbonate, sodium, oxide, ferric, alumina, phosphoric, silicate, carbonaceous, sulphates, humus, nitrogen, ammonia, nitrate, potash, protein, nitrogenous, carbonhydrates, chlorin, carbonic, kainit, sylvinit, muriate, nitrogen, leguminous, phosphate, azotine, denitrification, superphosphates, phosphatic, magnesia, potassic, calcareous, loam, oxidization, nitrification, dolomite, silica soluble in Na_2 Co_3 5.478, 85.675; ferruginous, fossiliferous, chilhowee, silicious lower carboniferous, intercalated, and so many other words with which he is not familiar as to very likely cause him to think that the simple fertilizing of his land is a subject **too deep** for him to understand.

Under judicious management all these **exhausted** Tennessee soils can be made fertile again and the individual who masters the subject of renovating worn out soils may find it profitable to make a **profession** of soil renovation.

STATE AND THE 247 COUNTIES OF TEXAS

With Their Boundaries



COUNTIES OF TEXAS.

Loca.	*County*	*Pop.*
1	Dallam	4,001
2	Sherman	1,376
3	Hansford	935
4	Ochiltree	1,602
5	Lipscomb	2,634
6	Hartley	1,298
7	Moore	561
8	Hutchinson	892
9	Roberts	950
10	Hemphill	3,170
11	Oldham	812
12	Potter	2,424
13	Carson	2,127
14	Gray	3,405
15	Wheeler	5,528
16	Deaf Smith	3,942
17	Randall	3,312
18	Armstrong	2,682
19	Donley	5,285
20	Collingsworth	5,224
21	Parmer	1,555
22	Castro	1,850
23	Swisher	4,012
24	Briscoe	2,162
25	Hall	8,279
26	Childress	9,538
27	Bailey	312
28	Lamb	540
29	Hale	7,566
30	Floyd	4,638
31	Motley	2,396
32	Cottle	4,396
33	Hardeman	11,213
34	Foard	5,726
35	Wilbarger	12,000
36	Wichita	16,094
37	Cochran	65
38	Hockley	137
39	Lubbock	3,624
40	Crosby	1,765
41	Dickens	3,092
42	King	810
43	Knox	9,625
44	Baylor	8,411
45	Archer	6,525
46	Clay	17,043
47	Montague	25,123
48	Cooke	26,603
49	Grayson	65,996
50	Fannin	44,801
51	Lamar	46,544
52	Red River	28,564
53	Bowie	4,827
54	Yoakum	602
55	Terry	1,474
56	Lynn	1,713
57	Garza	1,995
58	Kent	2,655
59	Stonewall	5,320
60	Haskell	16,219
61	Throckmorton	4,563
62	Young	13,657
63	Jack	11,817
64	Wise	26,450
65	Denton	31,258
66	Collin	49,021
67	Hunt	48,116
68	Delta	14,566
69	Hopkins	31,038
70	Franklin	9,331
71	Titus	16,422
72	Morris	10,439
73	Cass	27,587
74	Gaines	1,255
75	Dawson	2,320
76	Borden	1,386
77	Scurry	10,924
78	Fisher	12,596
79	Jones	24,299
80	Schackelford	4,201
81	Stephens	7,980
82	Palo Pinto	19,506
83	Parker	26,331
84	Tarrant	108,571
85	Dallas	135,748
86	Rockwall	8,072
87	Kaufman	35,323
88	Rains	6,781
89	Van Zandt	25,651
90	Wood	23,417
91	Camp	27,587
92	Upshur	19,960
93	Marion	10,472
94	Harrison	37,243
95	Andrews	975
96	Martin	1,549

Counties of Texas—Continued

Loca.	County	Pop.
97	Howard	8,881
98	Mitchell	8,956
99	Nolan	11,999
100	Taylor	26,293
101	Callahan	12,973
102	Eastland	12,973
103	Erath	32,095
104	Hood	10,008
105	Somervell	3,931
106	Johnson	34,460
107	Ellis	53,629
108	Henderson	20,131
109	Smith	41,746
110	Gregg	14,140
111	Rusk	26,946
112	Panola	20,424
113	El Paso	52,599
114	Culberson	
115	Reeves	4,392
116	Loving	249
117	Ector	1,178
118	Midland	3,464
119	Glasscock	1,143
120	Sterling	1,493
121	Coke	6,412
122	Runnels	20,058
123	Coleman	22,618
124	Brown	22,935
125	Comanche	27,186
126	Hamilton	15,315
127	Bosque	19,013
128	Hill	46,760
129	Navarro	47,070
130	Freestone	20,557
131	Anderson	29,650
132	Cherokee	29,038
133	Winkler	442
134	Ward	2,389
135	Crane	331
136	Upton	501
137	Reagan	392
138	Irion	1,283
139	Tom Green	17,882
140	Concho	6,654
141	McCulloch	13,405
142	San Saba	11,245
143	Mills	9,694
144	Lampassas	9,532
145	Coryell	19,013
146	McLennan	73,250
147	Limestone	34,621
148	Jeff Davis	1,678
149	Pecos	2,071
150	Crockett	1,296
151	Schleicher	1,893
152	Menard	2,707
153	Mason	5,683
154	Llano	6,520
155	Burnet	10,755
156	Bell	49,186
157	Falls	35,649
158	Robertson	27,454
159	Leon	16,583
160	Madison	10,318
161	Houston	29,564
162	Trinity	12,768
163	Angelina	17,705
164	Nacogdoches	27,406
165	San Augustine	11,264
166	Shelby	26,423
167	Sabine	8,582
168	Presidio	5,218
169	Brewster	5,220
170	Terrell	1,430
171	Valverde	8,613
172	Sutton	1,569
173	Kimble	3,261
174	Gillespie	9,447
175	Blanco	4,311
176	Travis	55,620
177	Williamson	22,228
178	Milam	36,780
179	Burleson	18,687
180	Brazos	18,919
181	Grimes	21,205
182	Walker	16,061
183	San Jacinto	9,542
184	Polk	17,459
185	Tyler	10,250
186	Jasper	14,000
187	Newton	10,850
188	Edwards	3,768
189	Kerr	5,505
190	Bandera	4,921
191	Kendall	4,517
192	Comal	8,434
193	Hays	
194	Caldwell	24,327
195	Bastrop	25,344
196	Lee	13,132
197	Fayette	29,796
198	Washington	25,561
199	Austin	17,699
200	Waller	12,138
201	Montgomery	15,679
202	Harris	115,693
203	Liberty	10,686
204	Hardin	12,947
205	Orange	9,528
206	Kinney	3,401
207	Uvalde	11,233
208	Medina	13,415
209	Bexar	119,676
210	Guadalupe	24,913
211	Gonzales	28,055
212	Lavaca	26,418
213	Colorado	18,897
214	Wharton	21,123
215	Fort Bend	18,168
216	Brazoria	13,299
217	Galveston	44,479
218	Chambers	4,234
219	Jefferson	38,182
220	Maverick	5,151
221	Zavalla	1,889
222	Frio	8,895
223	Atascosa	10,004
224	Wilson	17,066
225	Karnes	14,942
226	Dewitt	23,501
227	Victoria	14,990
228	Jackson	6,471
229	Matagorda	13,594
230	Dimmit	3,460
231	Lasalle	4,747
232	McMullen	1,091
233	Live Oak	3,442
234	Bee	12,090
235	Goliad	9,909
236	Refugio	2,814
237	Calhoun	3,635
238	Webb	22,503
239	Duval	8,964
240	Jim Wells	
241	Nueces	21,955
242	San Patricio	7,307
243	Aransas	2,106
244	Zapata	3,809
245	Starr	13,151
246	Hidalgo	13,728
247	Cameron	27,158
	Total	3,896,542

Texas Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
Abbie	79	207
Abbott	128	850
*Abilene	100	9,204
Abram	246	213
Acme	33	232
Adkins	209	217
Adsul	187	251
Aquilla	128	307
Alanreed	14	258
Alba	90	1,201
*Albany	80	1,211
Aldridge	186	617
Aledo	83	504
Alice	240	2,136
Allen	66	351
Alleyton	213	358
Almeda	202	268
*Alpine	169	1,561
Altair	213	208
Alta Loma	217	445
Alto	132	517
Alvarado	106	1,155
Alvin	216	1,453
Alvord	64	1,018
*Amarillo	12	9,957
Ammansville	197	317
Amphion	223	351
*Anahuac	218	531
*Anderson	181	617
*Angleton	216	1,508
Anna	66	341
Annona	52	534
*Anson	79	1,842
Appleby	164	251
Apple Springs	162	318
Aransas Pass	242	1,197
Arcadia	217	311
*Archer City	45	825
Argo	71	225
Argyle	65	251
Arlington	84	794
Arneckeville	226	253
Arp Smith	109	355
Asherton	230	850
Ashland	92	214
Askew	69	351
*Aspermont	59	821
*Athens	108	2,261
Atlanta	73	1,604
Atlast	229	215
Aubrey	65	817
*Austin	176	29,860
Avalon	107	301
Avery	52	511
Avinger	73	317
Axtell	146	285
B		
Baber	163	214
Bagwell	52	305
Bailey	50	313
Baileyville	178	251
*Baird	101	1,710
*Ballinger	122	3,536
*Bandera	190	372
Bangs	124	512
Barksdale	188	604
Barry	129	317
*Barstow	134	687
Bartonville	65	304
*Bastrop	195	1,707
*Batesville	221	203
Batson	204	814
*Bay City	229	3,156
*Beaumont	219	20,640
Beckville	112	604
Bedias	181	507
Beeville	234	3,269
Belcherville	47	221
Bellevue	46	613
*Bellville	199	1,211
Belott	161	208
*Belton	156	4,164
Benarnold	178	205
Benavides	239	512
Benford	184	251
Ben Franklin	68	513
Benhur	147	210
*Benjamin	43	514
Ben Wheeler	89	352
Bertram	155	571
Bessmay	186	850
Bettie	92	253
Big Creek	203	405
Big Sandy	92	1,201
*Big Springs	97	4,102
Billington	147	217
Birch	179	305
Blackfoot	131	512
Blackwell	99	407
Blanco	175	617
Blanket	124	513
Bleiblerville	199	520
Blessing	229	204
Blocker	94	250
Bloomburg	73	411
Blooming Grove	129	903
Blossom	51	871
Blue Ridge	66	425
Bluff	190	211
Bluff Dale	103	714
Blum	128	507
*Boerne	191	886
Bogata	52	417
Bomarton	44	611
*Bonham	50	4,844
Bonita	47	213
Bonus	214	612
Boonsville	61	205
*Boston	53	317
Bowie	47	2,874
Boyd	64	817
*Brackettville	206	2,114
Bradford	131	251
*Brady	141	2,669
Branchville	178	412
Brandon	128	401
Brashear	69	312
Brazoria	216	831
*Breckenridge	81	970
Bremond	158	1,415
*Brenham	198	4,718
Bridgeport	64	2,112
Bristol	107	352
Britton	107	218
Bronson	167	1,008
Bronte	121	635
Bookland	167	814
Brookshire	200	213
Brookstone	51	360
Browndel	186	513
*Brownfield	55	518
*Brownsville	247	10,517
*Brownwood	124	6,967
Bruceville	146	613
*Bryan	180	4,132
Bryson	63	250
Buck	184	412
Buckholtz	178	508
Buda	193	251
Buffalo	159	311
Buffalo Gap	100	513
Bullard	109	412
Bulverde	209	258
Buna	186	513
Buckburnett	36	1,511
Burke	163	208
Burkett	123	310
Burkeville	187	208
Burlson	106	512
Burlington	178	409
*Burnet	155	981
Burton	198	415
Byers	46	618
C		
Caddo	81	209
Caddo Mills	67	451
Calavaras	224	208
*Caldwell	179	1,476
Call	187	1,008
Callis	66	321
Calvert	158	2,579
*Cameron	178	3,263
Camilla	183	218
Campbell	67	708
Cambellton	223	212
*Canadian	10	1,648

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Texas Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Candelaria	168	541
*Canton	89	520
*Canyon	17	1,412
Carbon	102	479
Carlisle	162	516
Carlsbad	139	281
Carlton	126	251
Carmine	197	309
Carmona	184	219
Caro	164	1,251
Carrictos	247	255
*Carrizo Spgs.	230	610
Carroll	109	258
Carrollton	85	418
*Carthage	112	2,258
Cason	72	351
Castroville	208	510
Cat Spring	199	315
Cedar Bayou	202	409
Cele	176	211
Celeste	67	821
Celina	66	724
Cement	85	503
*Center	166	1,684
Center Point	189	541
*Centerville	159	308
Cestohowa	225	218
Chandler	108	309
*Channing	6	522
Chapel Hill	198	618
Charco	135	814
Charleston	68	214
Cherokee	142	253
Chester	185	318
Chico	64	1,203
*Childress	26	3,818
Chillicothe	33	1,207
Chilton	157	519
China Spring	146	316
Chireno	164	258
Chisholm	86	251
Chriesman	179	233
Christoval	139	218
Cibola	210	221
Cisco	102	244
*Clairemont	58	207
*Clarendon	19	1,946
*Clarksville	52	2,065
*Claude	18	692
Clawson	163	351
Clayton	112	200
Clear Spring	210	306
*Cleburne	106	10,364
Cleveland	203	1,089
Clevenger	164	351
Clifton	127	1,137
Clyde	101	495
Coahoma	97	615
Coffeeville	92	200
*Coldspring	183	617
*Coleman	123	3,046
Collinsville	49	791
Colmesnell	165	718
Cologne	235	318
*Colorado	98	1,840
Columbia	216	981
*Columbus	213	2,009
*Comanche	125	2,756
Cometa	221	508
Comfort	191	560
Commerce	67	2,818
Como	69	617
*Conroe	201	1,374
Cookes Point	179	418
Cookville	71	624
Cooledge	147	505
*Cooper	68	1,513
Coppras Cove	145	412
Cornhill	177	251
*Corp, Christi	241	8,222
Corrigan	184	705
*Corsicana	129	9,749
Coryell	145	200
Cottonwood	101	250
*Cotulla	231	1,880
Coupland	177	344
Courtney	181	200
Covington	128	400
Crandall	87	633
Crawford	146	516
Cresson	104	240
Crete	146	350
*Crockett	161	3,947
Cross	181	400
Cross Plains	101	200
*Crowell	34	1,341
Crowley	84	271
Crowther	232	200
Crystal City	121	325
Crystal Falls	81	250
*Cuero	226	3,109
Cumby	69	818
Cundiff	63	200
Curtis	102	211
Cushing	164	1,200
D		
Dacha	166	301
*Daingerfield	72	1,009
Dalby Springs	53	250
Dale	194	341
*Dalhart	1	2,580
*Dallas	85	92,104
Danevang	214	250
Davilla	178	421
Dawson	129	803
Dayton	203	258
Deadwood	112	200
Dearborn	204	531
*Decatur	64	1,651
Decoy	164	315
Deepwater	202	250
DeKalb	53	1,015
De Leon	125	1,021
*Del Rio	171	4,000
Denison	49	13,632
*Denton	65	4,732
Deport	51	318
Desdemona	102	201
Detroit	52	1,500
Devers	203	205
Devine	208	821
Dewet	211	250
Deweyville	187	510
Dexter	48	300
D'Hanis	208	521
Dialville	132	200
*Dickens	41	250
Dickey	159	211
Dickinson	217	210
Dilley	222	205
Divine	208	1,042
Dodd City	50	289
Dodge	182	318
Donie	130	201
Drasco	122	413
Druso	161	250
Dublin	103	2,551
Duncanville	85	200
Dundee	45	410
Durango	157	218
Duster	125	314
E		
Eagle Ford	85	251
Eagle Lake	213	1,717
*Eagle Pass	220	3,536
East Colum.	216	908
*Eastland	102	1,200
Ector	50	404
Eddy	146	512
Eden	140	514
*Edinburg	246	201
*Edna	228	1,700
El Campo	214	1,778
*Eldorado	151	514
Eldridge	213	200
Electra	36	640
Elgin	195	1,707
Elkhart	131	415
Ellinger	197	350
Elmendorf	209	208
Elmina	182	518
Elmo	87	350
Elmtown	131	250
*El Paso	113	39,279
Elysian Fields	94	212
Elmhouse	129	259
*Emma	40	5,669
*Emory	88	718
Emporia	163	301
Encinal	231	650
English	52	200
Enloe	68	326
Ennis	107	5,669
Eola	140	301
Estelline	25	636
Eustace	108	200
Evadale	186	520
Evant	145	318
Evergreen	183	216
Everitt	183	300
F		
*Fairfield	130	610
Fairlie	67	350
Falfurrias	245	1,400
Falls City	225	350
Fannett	219	250
Farmer	62	318
Farm. Branch	85	300
Farmersville	66	1,848
*Farwell	21	870
Fate	86	350
Fayetteville	197	274
Fentress	194	250
Ferris	107	1,283
Fisher	78	200
Flanagan	111	250
Flatonia	197	886
Florence	177	350
*Floresville	224	1,398
Floyd	67	218
*Floydada	30	664
Fords Bluff	186	510
Forestburg	47	250
Forney	87	1,114
Forreston	107	411
*Fort Davis	148	951
Ft. McKavett	152	215
Fort Sam	209	200
*Fort Stocton	149	310
*Fort Worth	84	73,312
Foster	215	518
Fostoria	201	1,500
*Franklin	158	1,019
Frankston	131	518
*Fred'ricksb'g	174	2,518
Friesburg	213	308
Friona	21	315
Frisco	66	617
Frosa	147	302
Frost	129	702
Fulbright	52	200
Fulshear	215	251
Fuqua	203	671
G		
*Gail	76	620
*Gainesville	48	7,642
*Galveston	217	36,981
Ganado	228	558
*Garden City	119	315
Gardendale	331	301
Gard'n Valley	109	200
Garland	85	804
Garrison	164	627
Gary	112	520
Garza	65	308
*Gatesville	145	1,929
Gause	178	415
Gay	165	411
George	160	308
*Georgetown	177	3,096
Germantown	235	350
*Giddings	196	1,200
*Gilmer	92	1,484
Gindale	156	200
Gladewater	110	515
Glenflora	214	408
*Glen Rose	105	1,009
Glidden	213	315
Godley	106	410
Goldsboro	123	251
*Goldthwaite	143	1,129
*Goliad	235	235
*Gonzales	211	3,139
Gordon	82	609
Goree	43	1,009
Graford	82	681
*Graham	62	1,569
*Granbury	104	1,336
Grand Prairie	85	994
Grand Saline	89	1,665
Grand View	106	1,018
Granger	177	1,708
Grapeland	161	412
Grapevine	84	681
Grayburg	204	1,015
*Greenville	67	8,850
Greenwood	64	313
Gregory	42	318
*Groesbeck	147	1,454
Groom	13	200
Groversville	39	210
Groveton	162	1,076
Grulla	245	343
Guffey	219	1,010
Gunsight	81	210
Gunter	49	315
Gustine	125	308
*Guthrie	42	550
H		
*Hallettsville	212	1,379
Hallsville	94	375
*Hamilton	126	1,548
Hamlin	79	1,978
Hampton	185	310
Handley	84	915
Hankamer	218	307
Happy	23	431
Harleton	94	250
Harlington	247	1,056
Harrisburg	202	541
Harrold	35	350
Hartburg	187	318
Harwood	211	550
*Haskell	60	2,436
Hasse	125	250
Hearne	158	2,352
Heath	86	310
Hebbronville	239	200
Hedley	19	615
Heidenheimer	156	200
Helotes	209	475
*Hemphill	167	300
*Hempstead	200	2,513
*Henderson	111	1,800
Henly	193	215
*Henrietta	46	2,104
*Hereford	109	1,750
Hermleigh	77	641
Hext	152	315
Hico	126	1,437
Hildalgo	246	671
Higgins	5	1,200
High Island	217	200
Hill	229	250
Hillendahl	202	415
*Hillsboro	128	6,115
Hitchcock	217	650
Hockley	202	418
Holland	156	778
*Hondo	208	2,500
Honey Grove	50	2,300
Hortense	184	514
Houghton	50	318
*Houston	202	78,800
Houston Hts.	202	6,984
Howe	49	581
Howland	51	417
Hubbard	128	1,813
Hughes Sprgs.	73	850
Humble	202	3,500
Huntington	163	510
*Huntsville	182	2,072
Hutchins	85	350
Hutto	177	815
Hylton	99	318
I		
Independence	198	314
Industry	199	508
Inez	227	207
Iowa Park	36	608
Ira	77	200
Iredel	127	750
Iris	162	250
Islitas	238	200
Italy	107	1,049
Itaska	128	1,356
J		
*Jacksboro	63	1,480
Jacksonville	132	2,875
*Jasper	186	410
Jayton	58	314

Texas Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
*Jefferson	93	2,515
Jewett	159	556
*Johnson City	175	1,009
Jonesboro	145	450
Josephine	66	500
Joshua	106	810
Josserand	162	319
*Junction	173	815
Justin	65	510
K		
*Karnes City	225	1,150
*Kaufman	87	1,959
Keenan	201	515
Keene	106	408
Keller	84	250
Keltys	163	1,394
Kemp	87	1,200
Kennedy	225	1,147
Kennard	161	617
Kennedale	84	200
Kenneth	182	1,117
Kerens	129	945
*Kerrville	189	1,843
Kildare	73	250
Kilgore	110	450
Killeen	156	1,265
Kimball	127	218
Kingsbury	210	250
Kingsland	154	257
Kingston	67	308
Kingsville	241	1,500
Kirbyville	186	2,115
Kirkland	26	410
Kirvin	130	310
Klondike	68	412
Knickerb'cker	139	410
Knox City	43	1,200
Kopperl	127	200
Kosse	147	764
*Kountze	204	617
Kress	23	318
Krum	65	750
Kyle	193	742
L		
Lacoste	208	200
Ladonia	59	1,293
La Fayette	92	250
*Lagrange	197	1,850
Lamarque	217	205
*Lamasco	50	250
Lamesa	75	1,110
*Lampassas	144	2,119
Lancaster	85	1,115
Linnius	50	218
La Porte	202	678
*Laredo	238	14,855
Lasalle	203	300
Laurelia	184	750
Lavernia	224	515
Lavon	66	315
League City	217	501
Leakey	188	581
Leander	177	250
Lebanon	66	225
Lebetter	197	200
Leesburg	91	250
Leesville	211	208
Leggett	184	211
Leonard	50	990
Lewisville	65	810
Lexington	196	1,500
*Liberty	203	980
Liberty Hill	177	518
Lillian	106	300
Lindale	109	658
*Linden	73	511
Lingleville	103	200
Littig	176	224
Little River	156	225
Liverpool	216	210
*Livingston	184	617
*Llano	154	1,687
Lloyd	65	217
*Lockhart	194	2,945
Lockney	30	750
Lodwick	93	210
Logtown	187	314
Lometa	144	517
Lone Oak	67	756
Long Branch	112	208
*Longview	110	5,155
Loraine	98	633
Lorena	146	450
Lott	157	1,021
Louise	214	310
Lovelady	161	671
*Lubbock	39	938
Lueders	79	750
*Lufkin	163	2,748
Luling	194	1,404
Lyford	247	317
Lyons	179	318
Lyra	82	1,194
M		
Mabank	87	1,500
McAllen	246	1,500
McCaulley	78	890
McDade	195	521
*McKinney	66	4,714
McLean	14	633
McNeil	176	200
*Madisonville	160	1,500
Mahon	112	215
Malakoff	108	310
Malone	128	518
Manning	163	715
Manor	176	688
Mansfield	84	627
Marathon	169	310
Marble Falls	155	1,061
*Marfa	168	708
Margaret	34	250
Marietta	73	255
Marion	210	1,200
*Marlin	157	3,878
Marquez	159	316
*Marshall	94	11,452
Mart	146	2,930
Martindale	194	526
*Mason	153	1,115
*Matador	31	719
Matagorda	229	615
Maud	53	318
Maxwell	194	350
May	124	416
Maynard	183	250
Maypearl	107	516
Melissa	66	253
*Memphis	25	1,936
*Menard	152	518
Mercedes	246	1,209
Mercury	141	518
*Meridian	127	718
Merit	67	322
Merkel	100	2,008
Mertens	128	450
Mesquite	239	687
Mesquite	85	687
Mexia	147	2,694
Meyersville	226	200
*Miami	9	528
*Midland	118	2,192
Midlothian	107	868
Milam	178	450
Milburn	101	309
Miles	122	1,302
Milford	107	766
Millersview	140	250
Millett	231	319
Millican	180	615
Millsap	83	814
Milvid	203	200
Minden	111	215
Mineola	90	1,706
Minera	238	1,176
Mineral Wells	82	3,950
Mingus	82	1,115
Mission	246	1,500
Mebeetle	15	650
Moffatt	156	200
Monahans	134	218
Monkstown	50	318
Montague	47	284
Mont Belvien	218	250
Montgomery	201	417
Montopolis	196	217
Moody	146	983
Moore	222	601
Moran	80	451
Morgan	127	831
Morgan Mill	103	350
Moro	100	225
Morrill	132	218
Moscow	184	240
Mosheim	127	250
Moulton	212	617
Mount Calm	128	700
Mt. Ent'rprise	111	500
*Mt. Pleasant	71	3,137
*Mt. Vernon	70	1,200
Muenster	48	416
Mullin Mills	143	750
Munday	43	956
Myra	48	415
N		
*Nacogdoches	164	3,369
Naples	72	1,178
Nash	53	421
Navasota	181	3,284
Neches	131	350
Neuville	166	250
Nevada	66	510
Newark	64	350
New Berlin	210	420
New Boston	53	2,144
*N'w Bra'nf's	192	3,165
New Fountain	208	200
Newport	46	275
*Newton	187	1,209
New Waverly	182	520
New Willard	184	513
Nix'n Gon'les	211	1,124
Noack	177	1,250
Nocona	47	1,338
Nordheim	226	850
Nomangee	159	200
Normanna	234	413
Nubia	100	520
Nursery	227	250
O		
Oak Grove	53	210
Oakland	213	250
*Oakville	233	750
Oakwood	159	906
O'Brien	60	610
*Ochiltree	4	515
*Odessa	117	1,123
Oglesby	145	321
Ojuelos	238	315
Olive	204	301
Olney	62	1,095
Omaha	92	812
Omen	109	225
*Orange	205	5,527
Orchard	215	212
Orphans Home	85	217
Osceola	128	412
Ottawa	160	312
Ottine	211	350
Ovalo	100	619
Overton	111	719
Ovilla	107	209
*Ozona	150	1,200
P		
*Paducah	32	1,350
Paige	195	518
*Paint Rock	140	521
Palacios	229	1,369
*Palestine	131	10,432
Palmer	107	605
*Palo Pinto	82	750
Punchita	246	212
Pandora	224	200
*Panhandle	13	521
Paradise	64	563
*Paris	51	11,269
Park Springs	64	318
Pearland	216	250
*Pearsall	222	1,799
Peaster	83	320
Pecan Gap	68	619
*Pecos	115	1,856
Peerless	69	250
Pelham	129	318
Pella	64	200
Peniel	67	467
Pennington	162	215
Perry	157	210
Pert	131	224
Petrolia	46	517
Petty	51	351
Phelan	195	418
Peckton	69	208
Pilot Grove	49	250
Pilot Point	65	1,371
Pinegrove	108	200
Pineland	167	211
Pine Valley	182	218
*Pittsburg	91	1,916
*Plainview	29	2,829
Plano	66	1,258
*Pleasanton	223	650
Poetry	87	301
Point	88	200
Point Isabel	247	396
Polly	190	218
Pontotoc	153	250
Poolville	83	501
Port Arthur	219	7,663
Portland	242	200
*Port Lavaca	237	1,639
*Post	57	512
Postoak	63	218
Pottsboro	49	313
Prairie Hill	147	209
Prairie Lea	194	312
Prairie View	200	520
Presidio	168	300
Press	164	315
Pritchett	92	218
Proctor	125	314
Progreso	246	319
Prosper	66	318
Putnam	101	518
Q		
*Quannah	33	3,127
Queen City	73	388
Quinlan	67	537
Quintana	216	537
*Quitman	90	428
Quito	134	214
R		
Rabke	226	471
Rancho	211	250
Randado	244	350
Randolph	50	412
Ronger	102	1,134
Ravenna	50	280
Raymondville	247	450
Raywood	203	200
Reagan	157	430
Realitos	239	324
Red Branch	161	680
Red Oak	107	350
Redwater	53	341
*Refugio	236	158
Ramlio	186	751
Renner	66	314
Rhome	64	486
Rhonesboro	92	250
Rice	124	318
Richardson	85	200
Richland	129	350
*Richmond	215	1,371
‘Rienzi	128	341
Riesel	146	550
Ringold	47	412
*Riogrande	245	2,109
Riovirta	245	518
Rising Star	102	640
River	203	408
Rivera	241	200
Roanoke	65	410
Roans Prairie	181	250
*Robert Lee	121	1,800
*Roby	78	951
Rochester	60	520
Rock Creek	83	571
Rockdale	178	2,073
Rock Island	213	521
Rockland	185	200
*Rockport	243	1,382
*Rock Springs	188	750
*Rockwall	86	1,136
Roda	147	250
Roganville	186	217
Rogers	156	1,275
Roma	245	671
Rosalie	52	300
Roscoe	99	941

Texas Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
Rosebud	157	1,572
Rosehill	202	317
Rosenberg	215	1,198
Rosewood	92	304
Rosser	87	211
Rosston	48	312
Rossville	233	314
Rotan	78	1,126
Round Rock	177	920
Round Top	197	314
Rowena	122	308
Roxton	51	617
Royse City	860	1,250
Royston	78	250
Rule	60	981
Runge	225	1,500
*Rusk	132	1,558
Ryalo	201	200
Rye	203	314
S		
Sabinal	207	1,640
Sabine	219	400
Sabine Pass	219	363
Sadler	49	417
Sagerton	60	520
Sage	155	318
Saint Hedwig	209	514
Saint Jo	47	822
Salado	156	420
*San Angelo	139	10,321
*San Antonio	209	96.614
*San Benito	247	2,124
*Sanderson	170	724
*San Diego	239	2,574
Sandy	175	250
San Elizario	113	834
San Felipe	199	206
Sanger	65	802
*San Marcos	193	4.071
San Patricio	242	315
*San Saba	142	1,508
Sansom	171	478
Santa Anna	193	1,453
Santa Maria	247	250
Santo	82	516
San Ygnacio	244	920
Saratoga	204	1,015
Sarco Creek	235	621
Saron	162	534
Savoy	50	328
Schertz	210	350
Schulenburg	197	1,091
Schumansville	210	312
Scotland	45	323
Scranton	102	334
Scurry	87	250
Seagoville	85	308
Sealy	199	1,600
*Seguin	210	3,116
*Seminole	74	510
*Seymour	44	2,029
Shafter	168	1,144
Shamrock	15	1,018
Shelby	199	200
Shelbyville	166	206
Shepherd	183	210
*Sherman	49	12,412
*Sherwood	138	708
Shiner	202	1,096
Shiro	181	250
Sierra Blanca	113	320
*Silverton	24	724
*Sinton	242	1,500
Sipe Springs	125	314
Skidmore	234	1,138
Smiley	211	1,184
Smyrna	154	318
*Snyder	77	2,514
Socorro	113	1,147
Somerville	179	2,400
*Sonora	172	820
Sourlake	204	800
Spanish Fort	47	247
Springtown	83	780
Stacy	141	200
Stamford	79	3,902
Stanley	184	421
*Stanton	96	1,420
Steele's Store	180	200
*Stephenville	103	2,561
*Sterling City	120	841
Sockdale	224	1.250
Stoneham	181	251
Stonewall	174	200
*Stratford	2	520
Streason	82	1,128
String	156	258
Steubner	202	218
Sublime	212	208
Sullivan	210	224
Sulphur Bluff	69	251
*Sulphur Spgs	69	5,151
Summers Mills	156	215
Sunset	47	650
Sunshine	241	200
Sutherland Springs	224	750
Swan	109	218
Sweet Home	242	520
*Sweet Water	99	4,170
T		
*Tahoka	56	871
Talpa	123	1,208
Tarkington Prairie	203	567
Tatum	111	341
Taylor	177	5,314
Teague	130	3,288
Tehuacana	147	425
Temple	156	10,993
Tenoha	166	491
Terlingua	169	200
Terrell	87	7,050
Texarkana	53	9,790
Texas City	217	421
Texla	205	520
Theta	67	481
Thomaston	226	344
Thorndale	178	641
Thornton	147	678
Thorp Spring	104	420
*Throckmorton	61	671
Thurber	103	4,523
*Tilden	232	584
Timpson	166	1,528
Tioga	49	1,566
Todd	181	479
Tokeen	122	200
Tolar	104	455
Tolbert	35	221
Tom Bean	49	288
Town Bluff	185	317
Toyah	115	1,052
Tracy	178	200
Trenton	50	550
Trinity	162	851
Trinity Mills	85	208
Troup	109	1,126
Troy	156	518
Truscott	43	215
*Tulia	23	1,216
Tunis	179	286
Tupelo	129	200
Turtle Bayou	218	471
Tye	100	251
*Tyler	109	10,479
U		
Union	224	314
Upton	195	568
Utopia	207	200
*Uvalde	207	3,998
Uvalde Station	207	785
V		
Valentine	148	217
Valley Mills	127	708
Valley View	48	350
Van Alstyne	49	1,441
Van Horn	114	381
Van Vleck	229	200
Velapsco	216	1,587
Velma	142	495
*Vernon	35	3,195
*Victoria	227	3,673
Vidor	205	287
View	192	451
Village Mills	204	418
Vincent	97	200
Voss	123	780
W		
*Waco	146	26,425
Waelder	211	1,100
Waldrip	141	257
Waller	200	481
Wallis Station	199	876
Wallisville	218	350
Walnut Springs	127	1,340
Warren	185	671
Warrenton	197	468
Washington	198	396
Waskom	94	501
Waterman	166	476
Waukegan	201	581
Waverly	182	260
*Waxahachie	107	6,205
*Weatherford	83	5,974
Webberville	176	311
Wehdem	199	314
Weimar	213	906
Weinert	60	779
Welcome	199	225
Wellborn	180	478
*Wellington	20	576
Wesley	198	217
West	146	1,645
Westbrook	98	517
W. Columbia	216	209
Westminster	66	378
Weston	66	250
Westpoint	197	318
*Wharton	214	1,505
White City	165	384
Whitehouse	109	250
Whitesboro	49	1,219
Whitewright	49	1,563
Whitney	128	766
Whitt	83	517
*Wichita Falls	36	8,200
Willis	201	1,126
Wils Point	89	1,398
Wimer	85	258
Winchell	124	256
Winchester	197	406
Windom	50	415
Wingate	122	200
Winnie	218	207
Winnsboro	90	1,741
Winona	109	318
Winters	122	1,347
Wokaty	178	314
Wolfe City	67	1,402
Woodbury	128	218
Woodland	52	220
Woodlawn	94	200
Woodsboro	236	587
*Woodville	185	920
Wortham	130	899
Wylie	66	620
Y		
Yoakum	226	4,657
Yorktown	226	1,180
Z		
*Zapata	214	725
Zephyr	124	781
Zorn	210	200
Zuber	112	517
Zuehl	210	218

TEXAS GROWTH IN POPULATION.

With the rapidity of growth of the Texan Empire the reader will understand that many towns here mentioned are considerably larger in population today than when the census was taken in 1910.

Why this State is advancing in growth so rapidly will be understood by perusal of the following pages descriptive of Texas.

GENERAL DESCRIPTION OF TEXAS

With Condensed Important

Facts Relating to Soil, Prices of Land in Different Parts of the State, Temperature on the Gulf Coast and in the Panhandle Region—Future Possibilities.

Opportunities in Agriculture and Varied Enterprises.

People Who Worry about the rapid coming of foreign-born population into the United States fail to comprehend the greatness of this country. This may be understood by a little computation, relating to the state of Texas.

To Illustrate there are in this state 265,780 square miles, multiply by 640 acres in the square mile, and see the many millions of acres we obtain. **Real estate agents** divide acres, in the cities, into ten lots to the acre. This would give us 1,700,992,200 lots. Assigning 9 persons to a lot we could place the whole human family of 15,000,000,000 people into the state of Texas and give each family of nine persons an average city lot, 25 by 125 feet in size.

Of course we are not anticipating any such crowding of dense population into the state of Texas. We are simply using this illustration to show the immensity in size of this state and demonstrate the fact that there need be no concern about this country being over-populated in hundreds of years, even if immigration continues to come at the rate of a million a year.

When the Panama Canal is finished. The fertility of soil, warmth of temperature, accessibility to the great markets of the world, on the completion of the Panama Canal, all conspire to make a population as dense as is in Illinois which would make it six times greater than it is now, being a state population of 18,292,710 with a density of some over 66 persons to the square mile.

While we cannot say how soon that will be it is very certain that the population will be several times larger than it now is in Texas.

FIVE DIVISIONS OF TEXAS IN SOIL AND CLIMATE

Geographers divide the state, in topography, into five sections,—the eastern. the central, western, northern and southern, along the Gulf Coast.

The first division includes the territory between the Sabine and Trinity Rivers in Liberty, Freestone and Dallas counties. The Sabine forms the boundary line between Texas and Louisiana. From the Sabine west to the Trinity is a distance of from 40 to 100 miles, and is mostly a heavily timbered region.

The soil in this section, on the upland, is a sandy loam resting on a clay subsoil. In the valleys it is generally a deep vegetable mold, very rich and productive.

The second division comprises the region westward from the Trinity River. A distance of 100 and 200 miles, to the Colorado River, and contains a large portion of the **wheat lands** of the state and extensive prairies. The Colorado extends northward through the city of Austin, and through Fayette, Bastrop, Burnett, Brown, Runnels and Cooke counties, up into Martin county.

The western part of Texas includes the vast territory from the Colorado to the Rio Grande Rivers, about four-fifths of which is **prairie land** and is used extensively for stock raising. The northern division contains the counties along the Red River on the north, and is about **equally divided** between forest and prairie and has a yellow loamy sandy soil.

The soil of the land lying north of the Canadian River in the Panhandle Region, comprising Oldtham, Potter, Hutchinson and Roberts counties, is apparently the sediment of a **great lake** that is believed to have been here in prehistoric times, and is exceedingly fertile.

THE DESERT REGION

The western part of the state comprises a broad expanse of desert land destitute of trees and vegetation, lying at an elevation of from 2,000 to 4,000 feet. The principal elevations of the state are the guadalupe Mountains in El Paso, Reeves and Jeff Davis counties.

THE PANHANDLE

The Panhandle Region is destined to become the abiding place of a vigorous hardy race of people. A large proportion of crisp, bright, bracing, sunshiny days makes it a salubrious and delightful climate in which to live. Outdoor work can be carried on there almost every day in the year. Sunstrokes are unknown, and the nights are always cool.

While the Panhandle portion of Texas has been largly a stock growing region, as time progresses it will be proven to have a climate and soil favorable for a diversity of crops.

For several years past excellent yield has been had of **sorghum,** millet, alfalfa, kaffir corn and other crops showing that when attention is given to farming, outside of cattle breeding, an excellent return may be expected in growing a general variety of crops.

NORTHERN PART OF TEXAS

As this northern part of Texas and the Panhandle country are a region liable to interest the land seeker he should know that in Wheeler county the principal crops at present are corn, **macaroni wheat,** oats, alfalfa and cotton. Fruits and vegetables do well and good results have come from growing **sugar beets.** The price of land varies from $3.50 to $10 per acre.

In Gray county half of the county is in prairie lands and the other half in hills and valleys with black and sandy soils.

PRINCIPAL CROPS

Well water here at 30 and 300 feet. Principal crops are **cotton,** Indian corn, wheat, oats, millet, sorghum, and broom corn. **Melons and vegetables** of all kinds do well. Lands worth from $3.50 to $10 per acre.

PRICES OF LAND.

Prices throughout the state vary from $3 to $50, $150 and $200 per acre, depending upon location. The visitor land seeker must himself determine which is the best investment.

The average rainfall in 1911 as is marked by distinct zones and decreases from east to west at the rate of **five inches** per every sixty miles. It is 50 inches along the eastern border from the Red River to the mouth of the Sabine, 25 inches through the west central region at Nolan and Taylor counties, 15 inches in the Valley of the Pecos River in Pecos and Crockett counties and 10 inches in El Paso county and along the southern border of New Mexico.

Texas Opportunities in Agriculture and Varied Enterprises

TEMPERATURE IN TEXAS

The temperature of Texas decreases about one degree every **40 miles** as you pass to the north. Thus, while along the Gulf Coast at Galveston and Corpus Christi the average annual temperature is 70, it is 54 in the Panhandle Region. In the valley of the Rio Grande and for a hundred miles inland from the Gulf, the lowest temperatures range from 10 to 18 above, the latter being the lowest at Brownsville, at the mouth of the Rio Grande.

Along the Coast the thermometer seldom registers below 20 and one year in five not below 32. Zero temperature has not been experienced except in the extreme northwestern part of the state where 14 below has been recorded.

Over the Central parts of the state the mercury falls below 32 only in the months of December, January, February and March, and then for not more than 28 days all told.

FIRST KILLING FROSTS

Along the Coast the first killing frost occurs Dec. 15; in the central and eastern parts of the state Nov. 15, and in the northern part Oct. 15. The last killing frost occurs in the Coast country about Feb. 5, one hundred miles inland Feb. 20, and in other parts of the state about March 1.

The temperature of the Gulf of Mexico has great influence, affecting all the southern part of the state. The cool breezes from the ocean keeps the temperature down in summer and up in winter.

The Gulf breeze blows over two-thirds of Texas ten months in the year. By constant changes in the air it increases evaporation, rendering the nights cool, no matter how hot the days. In January and February the Gulf winds are displaced by the winter monsoons called "northers." If it were not for these "northers" coming down from the Canadian country the mercury in Texas would not ever go down to the freezing point and the southern part of the state would be in the orange and banana belt.

WHAT CAN BE GROWN IN TEXAS

In the line of cultivated products the eastern division of the state will produce, and that abundently, everything that can be grown in the southland. **It will produce** all the cereals from wheat to rice, but owing to the deversity and quality of its soils it is especially adapted to fruit and garden truck.

THE NATURAL WHEAT REGIONS OF TEXAS

The northern section of the central prairie and the northwestern part of the plains are the great wheat regions of the state. To the southwest, in the country of the Nueces River where the Coast belt, the prairie and the plains merge into a triangle, south of San Antonio, is a section second only to eastern Texas, in its adaptation to fruit culture and the production of garden vegetables.

The Coast country is the natural home of rice and sugar cane. In the central prairie zone, while everything known to **mixed farming** will do well, cotton and corn are at present the staple products.

The western plains while merely given to cattle ranges are being gradually thrown open for farming purposes, the ordinary field crop of wheat, corn, broom corn, cotton and such crops being raised to advantage.

CROPS ADAPTED TO TEXAS

Among crops adapted to the soil and climate of Texas, **cotton** is a product admirably adapted to the climate, soil and labor conditions of the south. The yield is reasonably certain and the market constant.

The establishment of factories in various parts of the state for the manufacture of the cotton into clothes will soon make a home market that will greatly benefit this industry.

While Texas is not a wheat state there are 26,000,000 acres in the state that will give good wheat and as time passes it is probable that more and more winter wheat will be sown as the crops mature early and escapes the dry hot weather of July.

THE FRUIT BELT OF TEXAS

The fruit belt of Texas extends from the southwest to the northeast across the state. It is now definitely known that peaches, apples, pears and plums, among the larger fruits, and grapes, strawberries, blackberries and dewberries, among the smaller fruits, will flourish in eastern Texas. It has been demonstrated also that **peaches, apricots, figs, plums** and all the smaller fruits, are indigenous to the soil and climate of the southwestern part of the state.

It should not be understood that these are not the only regions in Texas where fruit raising can be profitably conducted. Orchards are everywhere throughout the state and time will reveal by experiment later how widely the fruit and **early vegetable zones** may be extended.

We could greatly extend this article on the advantage of truck growing on the Gulf coast of Texas. The Irish potato is planted here in February and matures in May. The second crop, the same year on the same land is planted in July and matures in November. The yield is from 100 to 250 bushels to the acre.

PRICES OF EARLY VEGETABLES

The Texas grower counts upon $1.00 per bushel for his first crop.

Southwestern Texas is the home of the cabbage. It is a winter vegetable and in the mild climate of the state it is planted in November and is ready for market in mid-winter. The yield is immense.

The profits on cantaloupes and melons run from $100 to $250 per acre. On onions the profits have sometimes run as high as $800 per acre. The **Texas Bermudas** stand very high in the market.

Much can be said of the great outlook for Texas in many respects. With 400 miles of Coast line on the Gulf of Mexico, the Red River on the north border navigable for 600 miles, the project is being considties, and with the Rio Grande on the western border navigable for 600 miles, the project is being considered of constructing the Intercoastal Canal extending from the Rio Grande River at Brownsville to Donaldsonville, on the Mississippi River north of New Orleans. This canal between 600 and 700 miles long.

THIS INTERCOASTAL CANAL

will unite the bays, lagoons and bayous which lie along the coast. This proposed waterway is to be 60 feet wide and nine feet deep, being of sufficient size for use by the most of the Mississippi River steamers.

A part of the improved water way system is to make the Brazos River navigable for 500 miles up to Waco, in Lennan County, the Trinity River navigable for 600 miles up to Dallas, in Dallas County, the Colorado River and others, giving in all, with the connections on the Mississippi River and its tributaries, some 8,000 miles of waterway, the steamers on which can penetrate 500 and 600 miles up into the interior of Texas. To appreciate the magnitude of the undeveloped resources of this state it is only necessary to study statistics for a little time.

IMMENSE POSSIBILITIES

In 1890 there was raised 78,000 pounds of rice along this proposed canal. In 1900 it was 800,000 pounds, and in 1903 the product was 400,000,000 pounds, valued at $7,500,000. This means only about 400,000 acres of rice land in cultivation, whereas between the Rio Grande and Sabine Lake there are 4,000,000 acres of rice land, one-half of which in cultivation would yield $75,000,000 annually.

STANDING TIMBER IN TEXAS

The thickly standing timber in the state covers an area of 36,000 square miles—an area equal to the state of Indiana. About two-thirds of this area is covered with pine and hardwood forests spread over the balance.

The rivers that extend northward into the interior of the state will bring out this lumber to the Intercoastal Canal to be distributed, it is expected, by that canal system to all parts of the country. But the people of Texas say why ship the hardwoods away? Why not work it into every description of wooden ware—furniture, interior building, etc.? The state is waiting for incoming factories to work up the hardwoods.

TEXAS IS YET YOUNG

It must be remembered that Texas is yet young and its possibilities but dimly comprehended. It was only in 1889 that the first petroleum oil wells began to bring revenue to the state by an output of 48 barrels of oil. In 1905 the production was 28,136,189 barrels, being one-fifth of the total production in the United States, and comes from wells in several different counties.

Texas Opportunities in Agriculture and Varied Enterprises

It is only a short time ago when it was discovered that artesian wells would flow water. There are now some 10,000 square miles of artesian well area, and more being found where sinking a well from 650 feet to 1,100 feet in depth will flow water at the rate of from 100 to 1,100 gallons an hour.

THE REGION FOR GROWING SUGAR CANE

Millions of acres in Texas are adapted to the growth of sugar cane, and this industry will assume large importance in this state.

While immigration is rapidly pouring into Texas, lands yet remain **very cheap** in price. In the central prairie region—a section well settled and with a soil that cannot be duplicated, except in certain portions of the Mississippi Valley,—improved lands can be bought for from $15 to $50 per acre, and unimproved land can be had from $6 to $30 per acre, according to location in reference to water and rail transportation.

PRICES IN EASTERN TEXAS

In the eastern part of the state, that part which has been settled more than a century—the picturesque, and perhaps the most fertile part of the state, land can be bought for from $3 to $20 per acre according to improvements.

There are tracts of cut-over timber land and pasture land that can be bought at $2 per acre, and that in several portions of the state. There are fruit and truck farms which yield an income equal to 100 per cent on a land valuation of $100, while the land within two miles can be bought for $6 an acre.

Farms that are paying an income on a capitalization of $50 per acre have for neighbors farms that can be bought for $12 per acre. **This condition** cannot long remain. The steady stream of immigration will adjust prices to values in a very few years. Unoccupied land is always **worthless.** A speculative value may attract to it for a time, but in the end it becomes a burden unless it is occupied and made to contribute through cultivation.

LOOK UP THE TRUCK BUSINESS

The land seeker going into Texas should look up the truck business. A great change has been made and remarkable advancement has been made in the truck industry within the last few years. Several causes combine to produce this. Among these is an **educated appetite** which calls for peck vegetables, and ripe fruit in mid-winter to be delivered in all the great markets of the north. The establishment of the refrigerator car, fast train service and the manufacture of ice in the warm climates, where truck can be grown.

KNOWLEDGE OF HOW TO GROW AND SHIP

Added to this, knowledge has been acquired as to how to best grow, pack and ship. **Experience has taught** what will sell best, how shippers can combine and co-operate. The railroads, in the meantime, desirous of upbuilding the business, have so arranged their schedules of time in fast shipment as to greatly facilitate the trucking business.

PIONEER STATES IN EARLY SHIPMENT TO NORTHERN MARKETS.

It is not generally understood that the advance made in shipping of early fruits and vegetables has been wholly built up within a brief time. Virginia sent a car of garden truck to the New York market, May 26, 1885. South Carolina followed with a consignment April 12, 1888. A carload of oranges went forward to New York from Florida in 1888. California has been shipping oranges since 1886 in refrigerator cars.

The early fruit and truck business, begun only so short a time ago, now employs thousands of men, women and children, and will expand. Closely following the early shipment of fruits and vegetables comes the canning of surplus products, a business which is now giving employment to tens of thousands of workmen in the United States.

The steady growth of all this comparatively new and rapidly growing industry forecasts the fact that there will be a steadily increasing demand for the land situated in a climate and on a soil that will permit the growth of that which will supply that demand.

Condensed Important Facts Relating to the State.

Dimensions. Extreme length of state, north to south, 620 miles; extreme width, east to west, 760 miles. Area, 265,780 square miles.

Climate. Pure, temperate and healthful summer heat, relieved by breeze from the Gulf. Winters mild and invigorating. Climate of the Gulf Coast semi-tropical. The eastern part rainy, the middle moderate, the southwestern portion dry. Corn is planted in February and harvested in July. Average annual temperature, for the state, 69.29; January, El Paso, 44; July, 82. Warmest, 113; coldest, 5 below. Yearly rainfall, 9.3 inches. Brownsville, January temperature, 57; July, 84. Extremes: Warmest, 102; coldest, 18 above. Yearly rainfall, 36.9 inches. Palestine, Anderson County: January temperature, 43; July, 82. Extremes, warmest, 104; coldest, 6 below. Yearly rainfall, 46.5 inches.

Altitude. The highest point in the state, Chanate Peak, in the Guadaloupe Mountains, in El Paso County, 7,730 feet.

History. La Salle, French explorer, erected a fort at Matagorda Bay in 1687; the country settled by the Spaniards and several missions established in 1715. Territory claimed by both Spaniards and French at time of Louisiana purchase in 1803. Settlements made and attempts to wrest it from Spain 1806-1816. In one battle 2,500 Mexicans and Americans killed 1813. Declared its independence of Spain and with Coahuila formed State of Mexico, 1827. Seceded from Mexico, 1836. Santa Ana invaded Texas, invested the Alamo, a fort near San Antonio, and put its garrison to the sword. The Mexican army routed; the state declared independent, and its independence acknowledged by the United States in 1837. Was annexed to the United States in 1846. Mexico, which had never recognized the independence of Texas, invaded the state, which caused the Mexican War of 1846-1848. Seceded in 1861 and re-admitted in 1870.

OTHER FEATURES OF INTEREST.

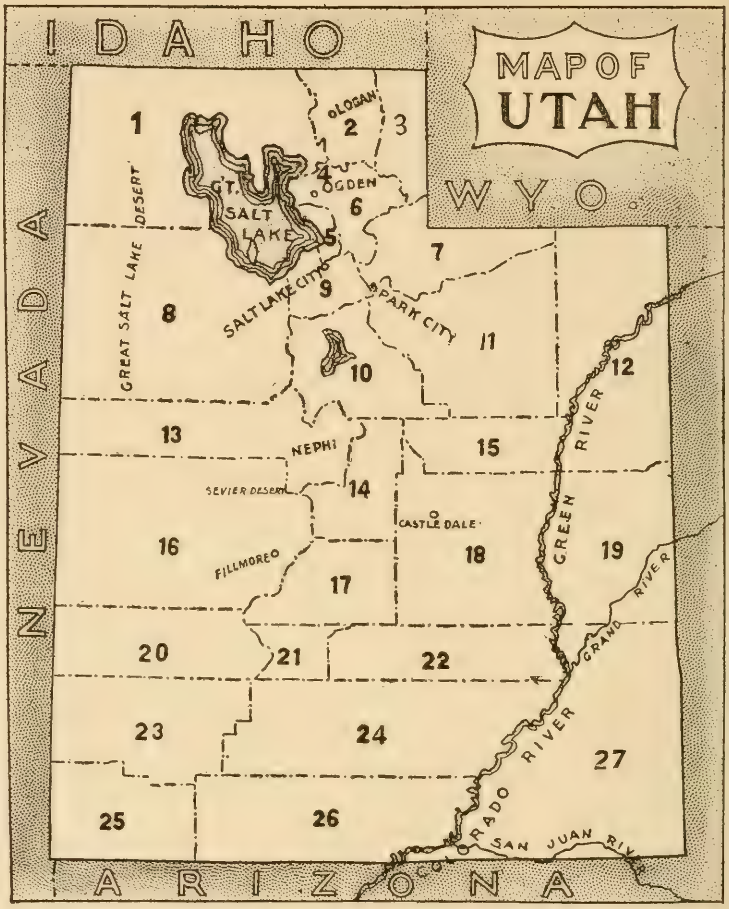
If space permitted we could dilate on many other advantages offered the land-seeker in this great area of territory, spanning for four hundred miles the Gulf of Mexico and for eight hundred miles bordering the Rio Grande.

STATE AND THE 27 COUNTIES OF UTAH

With Their Boundaries

Location and Population of UTAH COUNTIES

Location	COUNTIES	Pop. 1910
1	Box Elder	13,894
2	Cache	23,062
3	Rich	1,883
4	Weber	35,179
5	Davis	10,191
6	Morgan	2,467
7	Summit	8,200
8	Tooele	7,924
9	Salt Lake	131,426
10	Utah	37,942
11	Wasatch	8,920
12	Uinta	7,050
13	Juab	10,702
14	Sanpete	16,704
15	Carbon	8,624
16	Millard	6,118
17	Sevier	9,775
18	Emery	6,750
19	Grand	1,595
20	Beaver	4,717
21	Piute	1,734
22	Wayne	1,749
23	Iron	3,933
24	Garfield	3,660
25	Washington	5,123
26	Kane	1,652
27	San Juan	2,377
	Total	373,351



UTAH CITIES AND VILLAGES WITH 1910 POPULATIONS.

Towns	Loca.	Pop.
A		
Alpine	10	496
Alta	9	390
American Fork	10	2,797
Annabella	17	360
Aurora	17	406
B		
Bear River City	1	463
*Beaver	20	1,899
Benjamin	10	862
Bingham Canyon	9	2,811
Blaine	5	200
Boneta	11	226
Bountiful	5	1,677
*Brigham	1	3,685
Brinton	9	560
Burtner	16	250
C		
Cannonville	24	220
*Castle Dale	18	693
Castlegate	15	1,060
Castle Rock	7	220
Cedar City	23	1,705
Cedar Valley	10	220
Centerfield	14	620
Centerville	5	532
Charleston	11	283
Chester	14	326
Circleville	21	520
Clarkston	2	564
Clearcreek	15	862
Clearfield	5	210
Clear Lake	16	560
Cleveland	18	520
*Coalville	7	976
Collinston	1	526
Colton	10	330
Corinne	1	231
Cove	2	436
Coyoto	24	250
Croydon	6	260

UTAH CITIES AND VILLAGES WITH 1910 POPULATIONS

Towns	Loca.	Pop.
D		
Deep Creek	8	320
Deseret	16	660
Devils Slide	6	309
Deweyville	1	204
Dragon	12	250
Draper	9	1,066
E		
Echo City	7	220
Eden	4	660
Elsinore	17	656
Emery	18	525
Ephraim	14	2,296
Escalante	24	846
Eureka	13	3,416
F		
Fairview	14	1,218
*Farmington	5	1,231
Fayette	14	360
Ferron	18	651
Fielding	1	450
*Fillmore	16	1,202
Forest Dale	9	1,549
Frisco	20	520
G		
Garden City	3	360
Garfield	9	520
Garland	1	662
Geneva	1	462
Glendale	26	250
Glenwood	17	359
Gold Springs	23	220
Goshen	10	470
Grantsville	8	1,154
Greenriver	18	628
Greenville	20	209
Grouse Creek	1	280
Gunnison	14	950
H		
Harrisville	4	350
*Heber	11	2,031
Helper	15	816
Henefer	7	462
Henrieville	24	250
Herriman	10	250
Hiawatha	15	200
Hinckley	16	553
Holden	16	472
Honeyville	1	390
Hooper	4	1,309
Hoytsville	7	250
Hunter	10	350
Huntington	18	860
Huntsville	4	750
Hurricane	25	250
Hyde Park	2	699
Hyrum	2	1,833
I		
Ibapah	8	350
J		
Jensen	12	460
Joseph	17	650
Juab	13	205
*Junction	21	350
K		
Kamas	7	400
*Kanab	26	733
Kanarraville	23	282
Kanosh	16	513
Kaysville	5	887
Kenilworth	15	350

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Utah Cities and Villages with 1910 Populations

Towns	*Loca.*	*Pop.*
King	2	290
Koosharem	17	320
L		
Lake Point	8	200
Lakeshore	10	643
Laketown	3	321
Layton	5	809
Leamington	16	306
Lehi	10	2,964
Levan	13	722
Lewiston	2	989
Liberty	4	326
Lindon	10	850
*Loa	22	569
*Logan	2	7,522
M		
Maeser	12	200
Mammoth	13	1,262
Mammoth Junction	13	466
Manila	12	225
*Manti	14	2,423
Mapleton	10	534
Marion	7	230
Marysvale	21	225
Mayfield	14	626
Meadow	16	331
Mendon	2	459
Mercur	8	1,047
Merrills	2	426
Midvale	9	1,760
Midway	11	838
Milford	20	1,014
Millcreek	9	2,306
Miller	9	1,220
Millville	2	353
Minersville	20	591
*Moab	19	615
Moffat	12	200
Mohrland	18	490
Mona	13	368
Monroe	17	1,227
*Morgan	6	756
Moroni	14	1,223
Mount Pleasant	14	2,280
Murray	9	4,057
N		
Naples	12	509
*Nephi	13	2,759
Newhouse	20	596
Newton	2	515
North Ogden	4	1,066
O		
Oak City	16	250
Oasis	16	250
*Ogden	4	25,580
Ophir	8	254
Orangeville	18	648
Orderville	26	450
P		
*Panguitch	24	1,388
Paradise	2	620
Paragonah	23	460
Park City	7	3,439
Park Valley	1	250
*Parowan	23	1,156
Payson	10	2,397
Peoa	7	452
Peterson	6	271
Pine Valley	25	253
Plain City	4	1,060
Pleasant Grove	10	1,618
Pleasant View	4	562
Plymouth	1	250
Portage	1	406
*Price	15	1,021
Promontory	1	206
Providence	2	1,020
*Provo	10	8,926
Provo Bench	10	662
R		
Ranch	26	200
*Randolph	3	533
Redmond	17	547
*Richfield	17	2,559
Richmond	2	1,562
Riter	9	366
Riverdale	4	322
Riverside	1	250
Riverton	9	726
Robinson	13	428
Rockville	25	230
Roy	4	250
S		
*Saint George	25	1,769
Saint John	8	280
Salem	10	693
Salina	17	1,082
*Salt Lake City (capital)	9	92,777
Sandy	9	1,037
Santa Clara	25	308
Santaquin	10	915
Scipio	16	546
Scofield	15	750
Silver City	13	882
Smithfield	2	1,865
South Jordan	9	760
Spanish Fork	10	3,464
Spring City	14	1,102
Spring Glen	15	200
Springville	10	3,356
Sterling	14	296
Stockton	8	258
Sugarhouse	9	1,526
Sunnyside	15	750
Syracuse	5	520
T		
Taylorville	9	550
Theodore	11	366
Thistle	10	228
Thurber	22	273
*Tooele	8	2,753
Toquerville	25	350
Tremonton	1	303
Trenton	2	380
Tropic	24	358
U		
Uinta	4	228
Union	10	780
Upton	20	250
V		
*Vernal	12	836
W		
Wales	14	294
Wallsburg	11	547
Wanship	7	233
Wasatch	9	220
Wellington	15	2,358
Weber	4	560
Wellington	15	2358
Wellsville	2	1,195
Willard	1	580
Wilson	4	350
Winterquarters	15	208
Woodland	7	302
Woodruff	3	560
Woods Cross	5	1,066
Woodside	18	320

UTAH

Beginnings of Mormonism—Founders of the Sect Driven From Point to Point—Death of Joseph Smith—Subsequent History of the Mormons.

In writing history of various States it is interesting to trace the **causes** of first settlement of a people in any region of the country.

Sometimes a section of the country is entered by **pioneers** who want a good **hunting** ground; frequently by herdsmen who want a large **range for cattle**; sometimes by prospectors in search of **precious metals**; frequently by parties who want more **political** opportunity, and often by associations who want **religious freedom.**

Mormonism was, and is, one of the religious cults in which the followers want **no interference** with their particular faith. **Joseph Smith,** the originator of this phase of religious belief, **impressed** his doctrine so firmly upon a sufficient number as to enable him to found the church of **Latter Day Saints** in Manchester, N. Y., in 1830. **Sidney Rigdon,** becoming associated with Smith, they went to Independence, Mo., and thence to Kirtland, Ohio, where they were joined by **Brigham Young.**

SMITH RECEIVES A REVELATION

In 1843 Joseph Smith, who then had **one** wife, received a revelation, he claimed, authorizing **polygamy,** which caused dissension in the Mormon ranks. In an exposition of Smith and Rigdon, sixteen women testified that these leaders had **attempted to seduce** them under the guise of a revelation from heaven. Foster and Lane, who **printed** this expose, had their printing office **destroyed** by the Mormons and were compelled to **flee to Carthage,** Ill., where they obtained warrants for the **arrest** of **Joseph Smith** and **Hyrum Smith,** his brother.

This was in Nauvoo, Ill., where Joseph Smith and his followers had built a city, Smith being **mayor** of the town, **commander** of a military organization and **president** of the church.

THE SMITHS ARRESTED AND PLACED IN JAIL.

The warrants obtained by Foster and Lane caused the **Smiths** to be **arrested** and lodged in the **Carthage jail.** On the night of their imprisonment a mob attacked the jail and **inside** the building **Hyrum Smith** was shot and killed, and **Joseph,** having emptied the contents of his revolver upon the crowd, **was shot** while attempting to escape from a window, and **fell** to the ground **dead.** This was on June 27, 1843.

Brigham Young was appointed to the head of the church, and in 1847, like the Boers of **South Africa,** who treked hundreds of miles into the interior of their country, to be by themselves, the Mormons **emigrated** into the wilds of the Rocky Mountains to enjoy their religion unmolested, and **settled in the valley** of the Great Salt Lake.

POLYGAMY AFFIRMED BY BRIGHAM YOUNG.

In 1852, nine years after the alleged revelation to Smith, Brigham Young **affirmed the revelation** authorizing polygamy, which has been a **distinctive feature** of the Mormon religion until recent years.

Thus the Mormons, like many another religious organization before and since, were **land seekers** from religious zeal. A quiet, industrious people, they constructed the beautiful city of Salt Lake planted orchards, beautified and **improved** the whole region where they settled, in agricultural conditions, and **taught western pioneers,** many years ago, the possibilities and **benefits** of irrigation.

UTAH COLONY OF 140 MEN AND 3 WOMEN.

The claim is made that the advance army of the Mormons, who arrived in the Salt Lake Valley, July 24, 1847, included 140 men and three women. These were the people who laid the **foundation** of a city which is today the **center** of a thriving country of over a thousand miles in diameter.

Salt Lake City, which is situated 4,261 feet **above** sea level, is the **metropolis** of the inter-mountain region. Its more important industries are mining, agriculture, horticulture, the manufacture of sugar, salt refining, brick making, smelting, the manufacture of mining and milling machinery, and a dozen other **branches of business** connected with the development and reclamation of the arid West.

THE STATE YET WAITING FOR SETTLERS.

By the report sent out from the general land office at Washington there were seen to be, July 1, 1906, over 38,000,000 acres of government land yet unappropriated and **waiting** for homestead settlers, in Utah. On a visit to the Government Land Office at Salt Lake, it will be seen that there are numerous fertile valleys in this state where large **cities can and will** yet be built up.

At the land office here will be learned also concerning the irrigation project of the Utah Lake, the

Bear Lake project and the Strawberry Valley irrigation project. It is probable that a visit into this region will disclose to the land seeker many superior openings for investment. See Utah in our department of government irrigation.

But whether or not it is decided to make Utah a **permanent abiding place**, a journey to Salt Lake City will be exceedingly interesting. The city today, which in 1900 had 80,000 population, has a **growing** population, seen in our list of towns, has 132 miles of street railway, streets 132 feet wide, with double avenues of trees on each side, between which, at the roadside, flow clear streams of rippling water, which come down from the melting snows of the Wasatch mountains which shelter the city to the east and north.

Four years ago, when we visited the place, there were here fifteen banks having aggregate deposits of $20,000,000; four daily papers, two morning and two evening; a splendid water supply; four big pleasure resorts, two theaters, five hospitals, three large, modern hotels and numerous smaller ones; three natural hot spring baths equipped with plunge pools; a delightful public park with free music; many fraternal, social and intellectual clubs—while, when it comes to a climate, for those suffering from pulmonary diseases, Salt Lake City offers the weak-chested a very elixir of life. Those troubled with rheumatism, kidney troubles, and obstinate skin diseases hold Salt Lake in high esteem after having taken a course of the hot curative waters that, within the city limits, issue **scalding from nature's caldrons** in the bowels of the earth.

The big Mormon Temple, which cost $3,000,000, immediately arrests the eyes of the traveler on arriving here, while the Mormon Tabernacle, **seating 12,000 people,** is equally interesting.

THE GREAT SALT LAKE.

Great Salt Lake is 16 miles from Salt Lake City. This lake is supposed to be the **last remnant** of an immense ocean that once spread itself **over all** this region, the supposition being, inasmuch as latterly it has been decreasing in size, that ultimately it would completely dry up; but for some unexplained cause, at this writing, the lake is again filling, and before the year is ever may raise a foot or more in height.

Salt Lake is about **80 miles** long and from **30 to 50 broad.** Its area is 3,000 square miles and its waters are **22 per cent** salt.

Utah Lake, 40 miles south of Salt Lake, is **25 miles long and 13 wide,** has an area of 130 square miles, and is connected by the Jordan River with Great Salt Lake. **Sevier Lake,** in Millard County, another large sheet of water, has **no outlet** but receives from the north, Sevier River, **150 miles** in length. Salt and thermal springs in this region are numerous.

BAD SOIL TO BEGIN WITH.

The soil of the lowlands of Utah is **somewhat alkaline,** extremely sandy in portions, and very dry. Much of it, however, has been reclaimed **by irrigation** and rendered profitably productive.

The precipitation of rain on the highlands is sufficient for vegetation. The annual average temperature in spring is 46.20, in summer 73.57, in winter 30.38. The average annual rainfall is 15.10 inches.

THE PRINCIPAL INDUSTRY.

Aside from mining, the principal industry is agriculture, which is conducted in some ten of the great valleys of the state. With the extension of irrigation the cultivated agricultural area will be proportionately enlarged. In the meantime the mountains and high valleys produce an abundance of nutritious grasses, in consequence of which a large live-stock industry has been developed.

PRODUCTIONS OF ONE YEAR IN UTAH.

Among minerals, and to show the various resources of Utah, the government report of mineral output, in one recent average year, gives the following income:

Asphaltum stone	$ 92,540
Brick	311,899
Brick and tile	544,578
Coal	1,793,510
Coal Tar	6,830
Copper	8,938,496
Lead	4,882,454
Zinc	196,489
Mercury	36,000
Gold	5,140,920
Silver	6,666,028
Iron	120,296

Total mineral income for that one year was $25,980,682.

For agricultural and manufacturing products the list was also large

It should be borne in mind that Utah is comparatively a **young state** yet, has been isolated from the great thoroughfares of travel, has, at the 1900 census, only 3.4 persons to the square mile, has had **religious prejudice** to overcome and an arid climate to contend with, yet, **in spite** of all this, as shown by statistics of one year, is in a highly prosperous condition with an excellent outlook for the future.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude.—Highest in Utah, Mt. Emmons in the Uinta Mountains, in Wasatch Co., 13,694 feet.

Climate.—Winters usually mild. Summers dry and warm, rainfall scanty. Range of temperature between summer and winter and day and night often very great. At Salt Lake City, average January temperature, 28 above zero; July, 76. Extremes, warmest, 102; coldest, 20 below zero. Yearly rainfall, 16.2 inches.

Dimensions.—Extreme length, north and south, 345 miles; width, 275 miles, east and west. Area of the state, 84,970 miles.

History. — First explored by the Spaniards about 1540; settled by the Mormons in 1847, who called the region Deseret, and application was made in 1862 for admission of the territory under the name "State of Deseret." The application was refused. The Edmunds bill passed in 1882 for the suppression of polygamy and disfranchising polygamous Mormons met with stubborn resistance and was followed by a bill in 1887 restricting the suffrage and escheating a large amount of Mormon property, real and personal. This led the Mormons in 1890 to pledge themselves to discontinue the practice of polygamy. After a full agreement to obey the laws of Congress Utah was admitted to the Union as a State, January 4, 1896.

San Juan County occupies the southeastern corner of the State, with Monticello the county seat. It is triangular in shape, the extremes being 100 miles north and south and 125 miles east and west. The Colorado River forms the west line, and the whole region is desert and mountainous and far from railroads. Agriculture is confined to a few small reclaimed areas. There is some stock growing and some mining, the latter being in the prospecting stage. Some gold has been discovered in quartz and a number of placers have been found; but up to this time, mining has not taken on much importance. The belief prevails that the region will ultimately produce much copper and gold; but investigation has not yet made this certain. Assessed valuation, 1910, $533,475, which includes live stock at $384,700, representing three-fifths of the total property of the county. The population is 2,377.

The principal water courses are the San Juan and Colorado Rivers. These, with several of their tributaries, furnish water for a limited irrigated area. The Navajo Indian Reservation occupies the southeast corner of the county. The region of the San Juan is wild and picturesque and only partially explored. It contains many interesting topographical features, among which are the Canon of the Colorado, the great Natural Bridges, and many monuments of stone that have resisted the erosion of the centuries. Much effort is being made to have the Government set apart portions particularly weird and picturesque as a National Park, and the promise is that this will ultimately be done. The region is now probably the least known of any portion of the West and every year something new and interesting in Nature is being discovered there. Oil seepages along the San Juan River have been known for years, and thirty drilling rigs were in operation January, 1910, and two wells have been opened with a flow of thirty-five gallons to 200 barrels each per day. The oil has a paraffine base and the indications are now that the San Juan region is likely to ultimately become a considerable producer of petroleum products. Early in 1911, the development of the San Juan oil fields was being carried on at a rapid rate, the monthly expenditures being at least $30,000.

THE GREAT SALT LAKE.

The Great Salt Lake is counted one of the marvels of creation, and much has been the speculation as to its origin. There is no mystery about that, however. It is all that is left of old Lake Bonneville—the prehistoric sea that once washed over the greater portion of Utah and engraved upon the mountain sides three distinct lines as records of its ancient levels. In a book entitled "Lake Bonneville," which may be obtained from the Department of the Interior, Mr. Gilbert, of the United States Geological Survey, has elaborately discussed this old sea and its geology.

The principal valleys of Utah were once covered by the waters of Lake Bonneville, and the mountains in the broken ranges about the center of the State were islands on its surface. Geology points out that one primordial day Lake Bonneville broke through the mountain barriers on the north and carving out Bear River Canon, emptied into the ocean by way of the Snake and Columbia Rivers. After that, another and much lower shore line, still to be plainly seen, was carved out on the mountains by the chisels of the waves, and from that line the old lake has been coaxed down by evaporation through the centuries, until the present levels of the Great Salt Lake were reached. Every now and then alarmists threaten Utah with a loss of its dead sea. But there is no great fear of that. The lake rises and falls as the region is affected by wet and dry cycles. In 1843 John C. Fremont drove to Antelope Island over dry sand. In 1868 eight miles of water divided the island from the shore. And thus does the lake reflect wet and dry extremes.

About 1903 the waters were at low ebb, but since then the rains have been plentiful and the water line has steadily moved outward until Saltair Beach, which five years ago was 2,000 feet without the water line, is now 4,000 feet from shore.

The lake has several inlets, but no outlets. It is about seven times the area of the Dead Sea of Palestine and carries about the same percentage of salt, which varies from 19 to 22 per cent, according to the season of the year. The waters are green-hued and so buoyant that the bather floats without effort upon their surface. The theory is that Lake Bonneville carried about the percentage of salt of the oceans, and that gradual concentration by the process of evaporation is responsible for the extreme density of the present lake.

The first mention of the lake was by Baron La Honton, who, according to vague tradition, visited it in 1689, and afterwards told strange tales of bearded men who lived in powerful cities on its shores and navigated its waters in boats 130 feet long.

Father Escalante reached Utah Lake in 1776 and was told by the Indians of another and larger lake to the north—the waters of which were "noxious and extremely salt, producing an itching sensation in the moistened part."

Mr. Miller of the Astor Party saw the lake in 1820, and in the same year Prevost trapped along its tributary streams. The credit is, however, generally given to Jim Bridger for the discovery of the lake. His first view of it was in 1824 from the mouth of Bear River, and the accounts he gave of it were the first to contain accurate information. In 1826 four trappers sailed around it in hide canoes, searching for beaver. About 1831 or 1832 Captain Bonneville examined the region and wrote an account of the lake, whereupon Washington Irving gave it the name of Lake Bonneville, which it bore until 1843, when John C. Fremont, Kit Carson, and others explored it, fixed the latitude and longitude, and gave it its present name. Then came the Mormons in 1847 and founded Salt Lake City, since which time much has been written and said of the water-wonder. The accepted area of the lake is about 2,500 square miles, and its greatest depth is about thirty-three feet. Nothing lives in it except a shrimp no larger than the head of a pin; but thousands of sea-gulls sport on its waves and have one of its eight mountain islands as a breeding place. Ordinarily the lake is placid; but it is subject to sudden storms which lash it into fury, and then bathing and boating are difficult and dangerous.

The pleasure of a bath in the lake cannot be described. Those who visit it for that purpose number nearly one-half million a year. The buoyant waters bear the bather upon the surface and the bath is exhilarating and healthful. Regular bathing in the evening, followed by early retiring, will overcome insomnia, and because of that, nervous and overworked people resort there in great numbers.

The sunsets over the lake are gorgeous beyond description. These reach perfection in the summer season and are especially vivid when the clouds are massed in the west. Then the sky is aflame with every color of conflagration, and the cloud castles are bordered with gold and dyed with all the tints of rose and purple. The mountains, valley, and lake take on the reflection and are suffused with a splendor—a delirium of dyes that the brushes and the paint pots of all the world could never produce. These startling effects are attributed by artists to the influence of the sunlight upon the saline element in the atmosphere.

The lake has a marked effect upon the climate of the immediate region. It tempers the extremes of winter and summer for a hundred miles around and gives a delightful softness and a faint saline taste to the air.

Saltair Beach is the principal pleasure resort. It is eleven miles from Salt Lake City and is reached by steam road. The patronage of this resort is generous and the facilities for enjoyment there are numerous. The anticipated improvements for the near future are a trolley line from Salt Lake, a large hotel, and a sea-wall to control the inflow of the water and make the shore available for the location of summer cottages. An automobile speedway from Salt Lake City is also in contemplation, and the tract of level plain between the city and the resort is a popular and well adapted field for aviation.

Saltair Beach pavilion is said to be the largest for bathing purposes in the world. It stands over the waves 4,000 feet from the shore and is of Moorish design. The pavilion and other structures represent an expenditure to date of $550,000. The pavilion proper is 1,200 feet long and its extreme width 365 feet. The main tower rises 130 feet. Trains reach it upon piling and passengers are received at the grand entrance. All the pleasures usually found at bathing resorts are offered at Saltair. There is an interesting Midway, an ample space for basket luncheons which are very popular, a ship-restaurant of mammoth proportions, and a large hippodrome for summer opera, and the presentation of spectacular attractions.

The dancing pavilion on the upper floor is 140 by 150 feet and will accommodate 1,000 couples. Arched over this is a roof similar to that of the Mormon Tabernacle. The pavilion is crescent-shaped and the horns of the crescent carry more than 1,000 dressing-rooms provided with stationary wash-stands and shower-baths. Convenient access to the water is had from these rooms.

Saltair at night presents a magnificent sight and is distinctly visible from the higher portions of Salt Lake City.

SOLID SALT SEA.

One of the most curious illustrations of nature-work in Utah is the solid sea which lies between the south shore of the lake and the Deep Creek Mountains. Access to this remarkable spectacle has, until recently, been made difficult by the forbidding barriers of the Great American Desert, which surrounds it on three sides. Now, however, it is crossed by a railroad and is only a three-hour rail ride from Salt Lake City. The salt area is twelve miles wide by thirty miles long, and was formed by wind-driven waves from the Great Salt Lake, which little by little deposited their saline contents over the low levels of the desert. There is not an undulation upon it—not a sign of vegetation. It is just a great level, glittering white expanse. Engineers compute its salt contents to be about 380,000,000 car-loads—enough to salt the nation for some time to come after all other supplies are exhausted. The salt is almost pure and has an average depth of twelve feet. From a commercial viewpoint its value is almost incalculable and some time it will be a tremendous endowment for the University of Utah, which received it from the Government under the terms of the Utah Enabling Act. The wonders of the mirages of the desert are here intensified. Probably no other portion of the world can produce such marvelous imagery as may be seen every summer day under the blistering sun. In the heated air are exaggerations of every object upon the surface; the tumbleweed blown in from the desert, the carcasses of animals that have strayed too far from shore and perished from thirst, are all reflected in the mirrors of the air, and imagination may easily give the presentations forms that range all the way from the domes and turrets of an oriental city, to the commonest object of every-day life. And the sea itself is so duplicated around these creations that they seem to be afloat on vast areas of living waters.

OTHER LAKES AND RESORTS.

Utah Lake is a fresh water body in Utah County with an area of about 125 square miles. It is convenient to the town of Provo and is much used as a pleasure resort and for fishing and shooting. The waters have been stocked by the State with black-bass, whitefish, and other food fishes, and are drawn upon daily during the open season by professional fishermen for the markets. Hook and line fishing for bass in this lake is a favorite amusement and myriads of wild ducks feed about its shores and furnish shooting for a number of gun clubs.

STATE AND THE 14 COUNTIES OF VERMONT

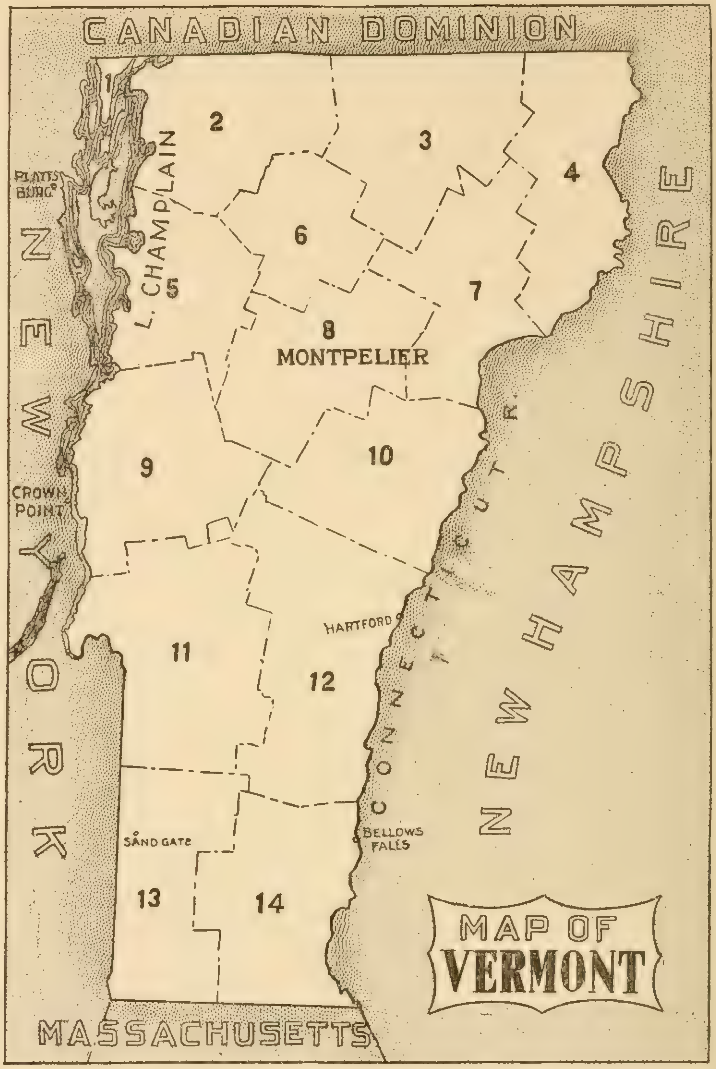
With Their Boundaries

Location and Population of VERMONT COUNTIES

Location	COUNTIES	Pop. 1910
1	Grand Isle	3,761
2	Franklin	29,866
3	Orleans	23,337
4	Essex	7,384
5	Chittenden	42,447
6	Lamoile	12,585
7	Caledonia	26,031
8	Washington	41,702
9	Addison	20,010
10	Orange	18,703
11	Rutland	48,139
12	Windsor	33,681
13	Bennington	21,378
14	Windham	26,932
	Total	355,956

CITIES AND VILLAGES OF VERMONT WITH 1910 POPULATIONS

A		
Addison	9	856
Albany	3	528
Alburg	1	1,109
Alburg Center	1	275
Alburg Junction	1	200
Alburg Springs	1	502
Andover	12	250
Arlington	13	466
Ascutneyville	12	220
B		
Bakersfield	2	1,158
Barnard	12	620
Barnet	7	550
Barre	8	10,734
Barton	3	1,330
Bartonsville	14	226
Beebe Plain	3	226
Beecher Falls	4	502
Bellows Falls	14	4,883
*Bennington	13	6,211
Benson	11	826
Berlin	8	510
Bethel	12	2,506
Bloomfield	4	564
Bolton	5	275
Bondville	13	462
Bradford	10	631
Braintree	10	476
Brandon	11	1,608
Brattleboro	14	6,517
Bridgewater	12	426
Bridgewater Corners	12	250
Bridport	9	945
Brighton	4	526
Bristol	9	1,180
Brookfield	10	526
Brownsville	12	513
*Burlington	5	20,468
C		
Cabot	8	227
Calais	8	200
Cambridge	6	595
Canaan	4	208
Castleton	11	1,125
Cavendish	12	652
Center Ruthland	11	520
Centervale	7	366
Charlotte	5	1,102
*Chelsea	10	1,070
Chester	12	666
Chester Depot	12	726



VERMONT CITIES AND VILLAGES WITH 1910 POPULATIONS

Towns	*Loca.*	*Pop.*
Chittenden	11	426
Clarendon Springs	11	215
Colchester	5	330
Concord	4	339
Conicut	10	225
Corinth	10	414
Cornwall	9	846
Coventry	3	262
Craftsbury	3	200
Cuttingsville	11	490
D		
Danby	11	890
Danville	7	828
Derby	3	316
Derby Line	3	390
Dorset	13	690
Duxbury	8	478
E		
East Alburg	1	226
East Arlington	13	630
East Barnard	12	240
East Barnet	7	263
East Barre	8	966
East Berkshire	2	926
East Bethel	12	211
East Braintree	10	330
East Burke	7	434
East Calais	8	690
East Charleston	3	406
East Clarendon	11	250
East Corinth	10	414
East Dorset	13	690
East Dover	14	220
East Dummerston	14	275
East Fairfield	2	1,096
East Hardwick	7	466
East Highgate	2	380

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of Vermont with 1910 Populations

Towns	*Loca.*	*Pop.*
East Johnson	6	366
East Middlebury	9	346
East Montpelier	8	626
East Peacham	7	250
East Poultney	11	326
East Randolph	10	228
East Roxbury	8	200
East Rupert	13	[illegible]
East Ryegate	7	266
East Wallingford	11	275
Eden	6	426
Eden Mills	6	590
Elmore	6	530
Enosburg Falls	2	1,155
Essex	5	265
Essex Junction	5	1,245
F		
Fairfax	2	1,338
Fairfield	2	[illegible]
Fair Haven	11	2,544
Fairlee	10	[illegible]
Fayston	8	[illegible]
Felchville	12	460
Ferrisburg	9	1,619
Forest Dale	11	251
Fowler	11	266
Franklin	2	920
G		
Gaysville	12	550
Georgia	2	680
Glen	11	326
Glover	3	791
Goshen	9	286
Grafton	11	794
Grand Isle	1	666
Graniteville	3	422
Granville	9	544
Green River	14	563
Greensboro	3	290
Greensboro Bend	3	266
Groton	7	[illegible]
Guilford	14	226
H		
Halifax	14	[illegible]
Hancock	9	253
Hardwick	7	[illegible]
Hartford	12	1,179
Hartland	12	1,040
Heartwellville	13	226
Highgate	2	659
Highgate Center	2	656
Highgate Springs	2	360
Hinesburg	5	242
Holden	11	227
Hortonville	11	240
Hubbardton	11	248
Huntington	5	326
Huntington Center	5	320
*Hyde Park	6	[illegible]
Hydeville	11	[illegible]
I		
Inwood	7	[illegible]
Ira	11	[illegible]
Irasburg	3	[illegible]
Island Pond	4	[illegible]
Isle La Motte	1	[illegible]
J		
Jacksonville	14	212
Jamaica	14	[illegible]
Jeffersonville	6	650
Jericho	5	1,913
Jericho Center	5	326
Johnson	6	651
Jonesville	5	220
L		
Leicester	9	509
Lincoln	9	[illegible]
Londonderry	14	462
Lowell	3	202
Lower Cabot	8	250
Ludlow	12	1,621
Lunenburg	4	290
Lunenburg Station	4	426
Lyndon	7	956
Lyndon Center	7	259
Lyndonville	7	1,573
M		
McIndoe Falls	7	406
*Manchester	13	478
Manchester Center	13	702
Manchester Depot	13	755
Marlboro	14	468
Marshfield	8	1,026
Mechanicsville	11	620
Mendon	11	392
*Middlebury	9	1,866
Middletown Springs	11	746
Milton	5	634
Monkton	9	912
Montgomery	2	950
Montgomery Center	2	990
Montpelier (capital)	8	7,856
Moretown	8	902
Morristown	6	290
Morrisville	6	1,445
Mount Holly	11	320
N		
Newark	7	562
Newbury	10	720
Newbury Center	10	490
New Haven	9	1,107
New Haven Mills	9	229
*Newport	3	2,548
North Bennington	13	663
Northboro	10	390
North Clarendon	11	250
North Craftsbury	3	200
North Danville	7	226
North Duxbury	8	226
North Ferrisburg	9	201
Northfield	8	1,918
Northfield Falls	8	206
*North Hero	1	790
North Hyde Park	6	520
North Montpelier	8	461
North Pownal	13	826
North Shrewsbury	11	422
North Springfield	12	432
North Thetford	10	336
North Troy	3	771
North Tunbridge	10	596
North Williston	5	676
Norwich	12	1,103
O		
Orange	10	530
Orleans	3	1,131
Orwell	9	1,150
P		
Panton	9	409
Passumpsic	7	250
Pawlet	11	831
Peacham	7	390
Perkinsville	12	603
Peru	13	373
Pittsfield	11	435
Pittsford	11	1,290
Pittsford Mills	11	409
Plainfield	8	341
Plymouth	12	200
Plymouth Union	12	346
Post Mills	10	350
Poultney	11	2,706
Pownal	13	1,036
Proctor	11	2,756
Proctorsville	12	706
Putney	14	894
Q		
Quechee	12	306
R		
Randolph	10	2,466
Randolph Center	10	200
Readsboro	13	864
Richford	2	1,922
Richmond	5	857
Richville	9	236
Ripton	9	525
Rochester	12	1,250
Roxbury	8	512
Royalton	12	327
Rupert	13	400
*Rutland	11	13,546
Ryegate Station	7	220
S		
*Saint Albans	2	6,239
*Saint Johnsbury	7	6,693
Saint Johnsbury Center	7	303
Salisbury	9	692
Sandgate	13	482
Saxtons River	14	1,409
Sharon	12	709
Sheffield	7	724
Shelburn	5	1,202
Sheldon	2	1,062
Sherburne	11	302
Shoreham	9	1,203
South Barre	8	309
South Cabot	8	250
South Dorset	13	226
South Hero	1	1,106
South Lincoln	9	201
South Londonderry	14	561
South Lunenburg	4	490
South Newbury	10	225
South Peacham	7	200
South Pomfret	12	577
South Royalton	12	1,120
South Ryegate	7	650
South Shaftsbury	13	1,726
South Starksboro	9	803
South Stafford	10	590
South Wallingford	11	220
Springfield	12	3,250
Stamford	13	677
Stannard	7	222
Starksboro	9	902
Stockbridge	12	272
Stowe	6	1,809
Strafford	10	520
Stratton	14	271
Sudbury	11	474
Sunderland	13	518
Sutton	7	694
Swanton	2	3,495
T		
Taftsville	12	336
Talcott	5	250
Thetford Center	10	225
Tinmouth	11	404
Topsham	10	417
Townshend	14	730
Tunbridge	10	362
U		
Underhill	5	840
Underhill Center	5	226
U		
Vergennes	9	1,753
Vershire	10	541
W		
Waitsfield	8	760
Waits River	10	200
Walden	7	364
Wallingford	11	1,102
Watham	9	264
Wardsboro	14	330
Warren	8	726
Washington	10	795
Waterbury	8	2,310
Waterbury Center	8	536
Waterford	7	505
Waterville	6	529
Wells	11	606
Wells River	10	865
West Barnet	7	302
West Berkshire	2	376
West Berlin	8	511
West Bolton	5	210
West Brattleboro	14	560
West Bridgewater	12	390
West Brookfield	10	390
West Burke	7	636
West Charleston	3	625
West Danville	7	426
West Derby	3	1,109
West Dover	14	320
West Dummerston	14	350
West Fairlee	10	539
Westford	5	862
West Georgia	2	250
West Glover	3	200
West Halifax	14	430
West Hartford	12	466
West Haven	11	855
Westminster	14	845
Westminster Station	14	200
Westminster West	14	250
Weston	12	756
West Pawlet	11	936
West Rupert	13	306
West Rutland	11	3,427
West Salisbury	9	336
West Topsham	10	562
West Wardsboro	14	237
Weybridge	9	518
Wheelock	7	467
White River Junction	12	2,309
Whiting	9	361
Whitingham	14	302
Wilder	12	302
Williamstown	10	1,610
Williamsville	14	420
Williston	5	250
Williston Station	5	676
Wilmington	14	1,221
Windham	14	256
Windsor	12	1,656
Winooski	5	4,520
Wolcott	6	990
Woodbury	8	762
Woodford	13	279
*Woodstock	12	2,066
Worcester	8	636

CONDENSED IMPORTANT FACTS RELATING TO THE STATE

Altitude—Highest, Mt. Marsfield in La Moile county, 4,430 feet.

Climate—Healthful, winters long, snows deep considerably and sometimes the mercury goes below zero. The average annual temperature is 45 degrees above zero; average annual temperature in January is 19 above; July 71. Extremes: warmest, 97; coldest, 25 below; yearly rainfall 28.8 inches.

Dimensions—Length from north to south, 155 miles; width 35 to 85 miles from east to west. Area 90 square miles. Over 100 miles of frontage on Lake Champlain. The state is noted for its scenery and many summer resorts, being in general description very much like New Hampshire.

History—Visited by Champlain in 1609 and between 1665 and 1691. The French erected forts on Lake Champlain. Immigrants from Massachusetts erected Fort Dummer near site of Brattleboro, 1724. "Green Mountain Boys" under Ethan Allen were prominent in the war of the revolution. First state constitution adopted 1777; last constitution adopted 1870.

Opportunities in Agriculture and Varied Enterprises

VERMONT

A Picturesque Region of Charming Resorts, Running Brooks, Fine Apple Orchards, Maple Sugar Groves, Large Woodpiles, Skating and Good Sleighing.

In Home Comforts Like Its Sister State of New Hampshire. For Winter Comforts Nearly the Same Description May Be Applied.

For several generations the trend of emigration has been **westward.** No matter how **savage** the Indians, how filled the country might be with **thieves** and **cut-throats,** how filled the soil might be with **alkali,** how **dry** the climate or **sandy** the desert—"To the West, to the West" has been steadily the cry, until the young men of many a **prosperous town** in the East have been induced to leave good homes where it would have been **much** to their advantage had they remained.

In a **certain sense** this has been all right. Beginning in a bleak New England region, where land had to be **cleared** of timber, **stones** to be picked and roads to be **opened** after **snow storms,** it was natural that enterprising youth should seek another clime **in** which to get a living.

And so the multitude has pressed to the westward and taken along the **sturdy** New England boys. That is all well. It was **necessary** that the West should be settled. It **has** been and **it is.** Now comes a period for **reflection.** Conditions have **changed.**

That old Vermont farm that used to seem so **far back** has seemingly been moved right to the front. The **daily paper,** with all the news of the world, is brought to the farm **every day.** The **telephone** that reaches out to the nearby **village store,** permits a conversation with all the neighbors for miles around and all the old acquaintances in Boston, New York, and other metropolitan cities. That **road** that used to **seem** so long has been shortened by the recently introduced automobile, and the multitude of people from the city who come out so **quickly,** and so **easily,** fill the old house with gaiety that the old times knew nothing about.

DID NOT KNOW ITS BEAUTIES IN OUR YOUTH

How **delightful** is the old farm today! That winding, rapid running brook—just a few rods away—it used to be a **river** when we were on the old farm, full of speckled trout as it is today. And those brooks that come jumping down the hillside with some of their sparkling water running into the kitchen—all **day** and all **night**—clear, bright, fresh water and **no water tax** to pay, and no notice from the health authorities advising that we **boil the water** to destroy the germs.

MANY WAYS OF MAKING MONEY

Sit down upon the broad porch here and **contemplate.** There is a maple sugar orchard on the place that will give an excellent revenue annually from real **genuine** "Vermont maple sugar."

There is a bee house where the bees go **out,** come in and **deposit the sweets** which they gather far up the mountain side. They want only enough of their honey to carry them through to another year. They will give the balance away and will be glad if we get a goodly sum for the **honey we sell.**

There is a strawberry field adjoining the kitchen garden, from which the children of the nearby town pick for us many **dollars' worth** of berries each season. There is an apple orchard that gives us a good many barrels of apples every year. And so after we have taken the **product** of our **poultry yard,** and the income from **city people** who **tented** on our grounds and boarded with us, through the summer, we find, putting our sources of revenue **all together,** that we are some hundreds of dollars ahead.

When winter comes, and the great pile of wood waits for us, at the end of the house under cover, a wood pile gathered from the hillside, after we had sold many cords of wood from the timber lot—we say, when **winter comes,** with barrels of apples in the cellar, the flour barrel full, bushels of hickory nuts and butter nuts gathered from our own fields, the sweetest of butter and cream from our own cows, the freshest of eggs, the mealiest of potatoes raised on our own grounds, with maple sugar, honey, pancakes from buckwheat, raised on our land,—we repeat, when winter comes, with plenty of money made in the past summer permitting us to go to some warm climate during the cold weather **if we choose,** we simply decide that we can get **more pleasure** in our cozy home, by the warm fire, eating apples, drinking cider, cracking hickory nuts, sugaring off our maple sugar, just attending to poultry, cattle, getting in wood and sitting by the warm winter fire, reading the magazines, papers and the latest books—we decide **we repeat,** that all this will afford us **more** real enjoyment than to go **anywhere** away in the winter.

EXCELLENT VERMONT SCHOOLS

And as the years go so pleasantly by and our children are so well educated in the excellent Vermont schools, and we get support and a competency from our little farm, we rejoice that it was our fortune to find a property so low in cost and that we got located where we are amid the fresh water brooks and the picturesque scenery of Vermont.

Productions—1905—**Agricultural:** oats, 3,094,924 bushels; corn, 2,020,859 bushels; wheat, 27,467 bushels. **Manufactures**—capital employed, $62,658,741. Wage earners, 33,106. Wages paid, $15,221,059. Value of productions, $63,083,611. **Minerals**—stone, $6,993,765; slate, $1,352,541; lime, $188,921.

State Public Institutions—Location of—Asylum for the Insane, Waterbury; Soldiers' and Sailors' Home, Bennington; House of Correction, Rutland; State Prison, Windsor; University, Burlington; Industrial School, Vergennes; Agricultural College, Burlington; Normal Schools, Johnson, Castleton and Randolph; Brattleboro Retreat, Brattleboro; State Improvement Association, Vergennes.

ETHAN ALLEN.

A prominent Vermont man during the revolutionary period in the United States was Ethan Allen, born in Connecticut in 1739, who died in Burlington, Vt., Feb. 13, 1789.

His biographer, in the American Cyclopedia, says: About 1763 he settled, with four younger brothers, in the township of Bennington, Vt. Previous to the revolution there existed a dispute between the colonies of New York and New Hampshire, relative to their boundaries, and the debatable land included the whole of the present state of Vermont, then called the New Hampshire grants.

Ethan Allen first became conspicuous in the controversy which grew out of the attempt to enforce a New York law. Actions of ejectment being brought against those who held land under grants from New Hampshire, Allen was selected, in 1770, as agent to represent the settlers, in the litigation at Albany. The decision was adverse to them and they resolved to resist. They adopted Allen's own phrase, "The gods of the valleys are not the gods of the hills." The New York authorities were everywhere set at defiance. Allen was made colonel of an armed force which not only protected the New Hampshire grantees, but removed the New York settlers. Governor Tryon, of New York, proclaimed a reward of $150 for Allen's arrest.

This state of affairs remained unaltered till the revolution, New York maintaining her hostile attitude, and the Vermonters the possession of their farms. In 1775, when war with the mother country had become inevitable, the occupation of Ticonderoga was determined on, and the task was confided to Allen, who set out at once at the head of his "Green Mountain Boys," reaching Caselton May 7, 1775. A party was also detached, under Captain Herrick, toward Skenesborough, and another, under Captain Douglass, to Panton in the vicinity of Crown Point.

On the morning of May 10 Allen, who had previously been joined by Arnold, surprised Ticonderoga, summoning Captain Delaplace, who commanded the post, to surrender in the name of "the great Jehovah and the Continental Congress." By this **coup de main,** 2 officers, 48 rank and file, 120 pieces of artillery, and a large quantity of small arms were captured, and the command of the Green Mountains was wrested from the English. Only 80 Americans were present **at** the capture. The other enterprises were equally successful, Skenesborough and Crown Point being also captured.

A dispute ensued between Arnold and Allen relative to the command, which the latter maintained until he was relieved by the arrival of the Connecticut regiment, commanded by Colonel Hinman, to whom he delivered his conquests. Allen immediately proposed to the authorities of New York an invasion of Canada, which was refused, and he then proceeded to Philadelphia, where the Continental Congress officially acknowledged his services.

He next joined General Schuyler's army as a volunteer, was employed in secret missions to sound the views of the Canadians, and rendered valuable aid in Montgomery's expedition to Canada, but in an unfortunate demonstration against Montreal with a small force of American and Canadian recruits, made on the persuasion of Major Brown, Sept. 25, 1775, he was captured and sent a prisoner to England. A few months later he was sent back to America and confined in prison ships and jails at Halifax till May 3, 1778, when he was exchanged.

During most of his captivity he was treated as a felon and kept heavily ironed, but for a part of 1776-7 was allowed restricted liberty on parole. Kindly received at Congress and by Washington, he was about to enter the military service again when the old colonial troubles regarding Vermont were revived.

Allen was now chosen general, and appointed to command all the militia of that State. In the meantime 16 of the western townships of New Hampshire sought annexation to Vermont, sending a petition to that effect to the legislature, who referred the matter to the people. The governor of New Hampshire protested against this course, writing to the Continental Congress to interpose its authority.

Allen was sent as the agent of Vermont to explain to Congress the course of the state. About this time the English commanders in America began to meditate the restoration of royal authority in Vermont, and while the Vermont claim of self-government was in abeyance, sought to take advantage of the dispute. A tempting offer was made to Allen through Beverly Robinson, a well-known tory of the time, without any result except that by feigning negotiations Allen was able to preserve the neutrality of the English authorities toward the mountaineers, who were consequently unmolested until nearly the end of the war. Before that time he removed to Bennington, thence to Arlington and subsequently to the vicinity of Oman River, where he resided till his death, serving for some time in the legislature.

He was twice married and left a wife and several children. In addition to a history of the controversy between Vermont and New York, a narrative of his captivity and various political pamphlets, he was the author of a work entitled "Reason the Only Creed of Man" (8vo, Bennington, 1784), in which the Bible and the Christian religion are assailed from a purely deistic standpoint.

VERMONT PRODUCTIONS AND RESOURCES.

Agricultural Productions.—These include wheat, Indian corn, rye, oats, barley, buckwheat, potatoes, tobacco, butter, cheese, hops, maple sugar, honey, poultry, apples, strawberries and maple molasses.

Birds.—The birds are those of New England generally, besides aquatic fowl which frequent Lake Champlain.

Fish.—Lake Champlain yields large quantities and numerous varieties of fish, including muscallonge, lake whitefish, salmon trout, pickerel, roach, perch, and other smaller fish, while the brooks and rivers teem with speckled trout.

Forest Trees.—There are nearly one hundred species of trees and large shrubs. The principal forest trees are hemlock, fir and spruce on the mountains, pine, oak, beech, sugar maple, hickory, elm, butternut, basswood and birch on the lower land, and cedar in the swamps. The mountains are generally covered with timber or afford good pasturage.

Green Mountains. The northernmost portion of the Appalachian chain, extending from Canada south through Vermont. To this State, over which they are largely spread, they give its name, from the term, **monts verts**, mountains green, by which they were known to the early French settlers. The continuation of the range through Massachusetts and Connecticut is also known to geographers as the Green mountains, but by the inhabitants of those states other names are applied to them; as the Hoosac in Massachusetts for that portion lying between the Connecticut and Hoosatonic rivers and constituting the most elevated portion of the State, and the Tetonic mountains for the western part of the range along the New York line. These ranges extend into Vermont near the Southwest corner of the State, and join in a continuous line of hills that pass through the western portion of the State nearly to Montpelier.

Lakes.	Miles long.	Miles wide.
Bomoseen Lake, Rutland Co.	8	2
Bristol Lake, Addison Co.	2	1
Caspian Lake, Orleans Co.	3	1
Crystal Lake, Orleans Co.	2½	½
Lake Champlain, Western Vt.	125	⅛ to 15
Lake Dunmore, Addison Co.	5	1
Lake Memphremagog, Orleans Co.	33	2 to 4
Seymour Lake, Orleans Co.	4	2
Silver Lake, Addison Co.	¾	½
Willoughby Lake, Orleans Co.	6	1½

Live Stock.—As a large proportion of the land is better adapted to grazing than to tillage, much attention has been given to the raising of live stock, and the horses, cattle, sheep and swine of Vermont are of excellent quality.

Manufacturing Industries. — Agricultural implements, blacksmithing, boots and shoes, carriages and wagons, cars, freight and passenger; cheese, cotton goods, flour and grist-mill products, furniture, leather, lumber, machinery, musical instruments, sash, doors and blinds; tin, copper and sheet iron ware, woolen goods.

Marbles and Slate.—Vermont is rich in marble and slate. Marble was first quarried at Rutland in 1844, and the quarries there now supply about half of the production of Vermont. The marbles obtained are the white statuary, the variegated, mottled and blue. The white is not inferior to the Italian. Other marbles of various colors are obtained in different parts of the state. Thus the Swanton and Isle La Motte marble, when polished, is a jet black; Winooski yields a fine sienna, and other grades of pale, red and white colors.

Religious Denominations.—Baptist, Christian, Congregational, Episcopal, Friends, Methodist, Presbyterian, Roman Catholic, Second Adventist, Spiritualist, Unitarian, Universalist, Unknown, Various Unions.

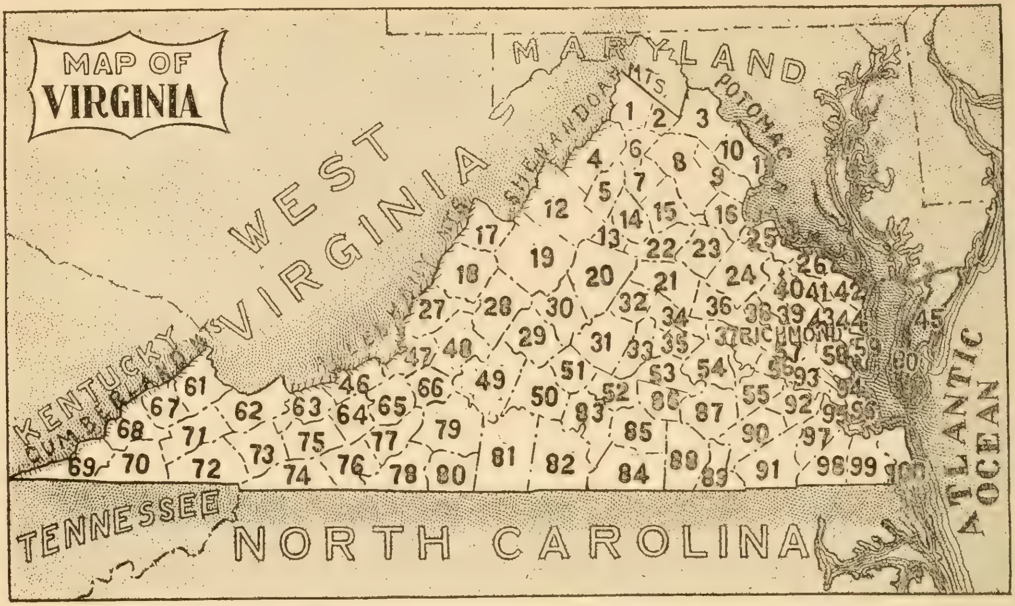
Reptiles.—The rattlesnake, black snake, two or three species of adder, and the harmless species of serpents are not infrequent.

Wild Animals.—The wild animals are the panther, wild cat, lynx, raccoon, wolf, fox, elk, deer, black bear, rabbits and squirrels of different species.

Waterfalls.—The state abounds in beautiful waterfalls and picturesque natural curiosities. The most remarkable, besides Bellard's Falls, in the Connecticut, are the Great Falls on the La Moile, in Milton; the O'Connel's Falls, and the natural bridge, a little below them in Johnson; the great falls on the Clyde in Charleston, where there is a descent of 100 feet in 40 rods; the numerous falls on the Winooski, with its natural bridge and caverns in Duxbury; the magnificent fall of 70 feet in the Missis-quoi, at Troy, and the gentler one at Highgate; the falls in the Passumpsic at Lyndon; the falls in the Black River at Springfield, and the caves at Dorset and Plymouth. Many of the streams flowing west unite to form fine rivers which enter Lake Champlain. Eleven smaller rivers flow into the Connecticut, which drains about one-third of the area of Vermont. Three streams run north to Lake Memphremagog, about one-fifth of which is within the state, and two streams flow south to join the Hudson River. Most of the larger streams flow through wide, fertile valleys.

STATE AND THE 100 COUNTIES OF VIRGINIA

With Their Boundaries



LOCATION AND 1910 POPULATION OF VIRGINIA COUNTIES.

Loca.	*County*	*Pop.*
1	Frederick	12,787
2	Clarke	7,468
3	Loudoun	21,167
4	Shenandoah	20,942
5	Page	14,147
6	Warren	8,589
7	Rappahannock	8,044
8	Fouquier	22,526
9	Prince William	12,026
10	Fairfax	20,536
11	Alexandria	10,231
12	Rockingham	34,903
13	Greene	6,937
14	Madison	10,055
15	Culpepper	13,472
16	Stafford	8,070
17	Highland	5,317
18	Bath	6,538
19	Augusta	32,445
20	Albemarle	29,871
21	Louisa	16,578
22	Orange	13,486
23	Spottsylvania	9,935
24	Caroline	16,596
25	King George	6,378
26	Westmoreland	9,313
27	Alleghany	14,173
28	Rock Bridge	24,416
29	Amherst	18,932
30	Nelson	16,821
31	Buckingham	15,204
32	Fluvanna	8,323
33	Cumberland	9,195
34	Goochland	9,237
35	Powhatan	6,099
36	Hanover	17,200
37	Henrico	23,427
38	King William	8,547
39	King & Queen	9,576
40	Essex	9,105
41	Richmond	7,415
42	Northumberland	10,777
43	Middlesex	8,852
44	Lancaster	9,752
45	Acooumac	36,650
46	Giles	11,623
47	Craig	4,711
48	Botetourt	17,727
49	Bedford	29,849
50	Campbell	23,043
51	Appomattox	8,904
52	Prince Edward	14,266
53	Amelia	8,720
54	Chesterfield	21,299
55	Prince George	7,848
56	Charles City	5,253
57	New Kent	4,682
58	Gloucester	12,477
59	Mathews	8,922
60	Northampton	16,672
61	Buchanan	12,334
62	Tazewell	24,946
63	Bland	5,154
64	Pulaski	19,246
65	Montgomery	17,268
66	Roanoke	19,623
67	Dickenson	9,199
68	Wise	31,162
69	Lee	23,840
70	Scott	23,814
71	Russell	23,474
72	Washington	32,830
73	Smyth	20,326
74	Grayson	19,856
75	Wythe	20,372
76	Carroll	21,116
77	Floyd	14,092
78	Patrick	17,195
79	Franklin	26,480
80	Henry	18,459
81	Pittsylvania	30,709
82	Halifax	40,044
83	Charlotte	15,785
84	Mecklenburg	28,956
85	Lunenburg	12,780
86	Nottoway	13,462
87	Dinwiddie	15,442
88	Brunswick	19,244
89	Greenesville	11,890
90	Sussex	13,664
91	Southampton	26,302
92	Surry	9,715
93	James City	3,624
94	York	7,757
95	Warwick	6,041
96	Elizabeth City	21,225
97	Isle of Wight	14,929
98	Nansemond	26,886
99	Norfolk	52,774
100	Princess Anne	11,526
	Total	2,061,612

Cities and Villages of Virginia with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
*Abingdon	72	1,757
*Accomac	45	712
Adamar	70	309
Alberenc	20	362
Alexandria	11	15,329
Alfredton	62	1,026
Almagro	81	990
Altavista	50	526
*Amelia C H	53	380
*Amherst	29	550
Anchor	92	200
Appalachia	68	1,090
*Appomatox	51	222
Arlington	11	1,536
Ashburn	3	220
Ashland	36	1,324
Atlantic	45	250
B		
Ballston	11	860
Barhamsville	57	250
Barton Heights	37	1,388
Basic City	19	1,632
Bealeton	8	250
*Bedford City	49	2,508
Belle Haven	45	296
Belspring	64	336
Bentonville	6	268
Berkley	99	4,988
*Berryville	2	876
Big Stone Gap	68	2,590
Blacksburg	65	875
Blackstone	86	1,486
Blackwood	67	550
Blairs	55	250
*Bland	62	330
Blankenship	69	249
Bluemont	3	200
Boissevain	62	226
Bondtown	68	305
*Bowling Green	24	433
*Boydton	84	421
Boykins	91	505
Branchville	91	239

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of Virginia with 1910 Populations

Towns	*Loca.*	*Pop.*
Brandy Sta.	15	201
Brewster	71	226
Bridgetown	60	322
Bridgewater	12	859
Bristol	72	6,247
Bristow	9	362
Broadcreek	100	563
Broadway	12	416
Brookneal	50	504
Brownsburg	28	325
Brucetown	1	338
Buchanan	48	792
*Buckingham	31	462
Buell	99	250
Buena Vista	28	3,245
Buffalo Station	30	326
Burkes Garden	62	250
Burkeville	86	653
C		
Cambria	65	535
Cape Charles	60	1,948
Cape Henry	100	200
Cappahosic	58	200
Cartersville	33	262
Cedar Bluff	62	250
*Charlotte Court House	83	329
*Charlottesville	20	6,765
Chase City	84	1,662
*Chatham	81	1,113
Cherrydale	11	252
Chester	54	201
Chilhowie	73	362
Chincoteague Island	45	1,419
*Christiansburg	65	1,563
Christiansburg Station	65	426
Churchland	99	1,102
Churchville	19	250
City Point	55	409
Claremont	92	630
*Clarendon	11	420
Clarksville	84	794
Clayville	35	250
Clifton Forge	27	5,748
Clifton Sta.	10	204
Clinchfield	71	568
Clinchport	70	252
*Clintwood	67	342
Clopton	54	200
Clover	82	258
Clovercreek	17	228
Cobbs Creek	59	266
Coeburn	68	645
Collierstown	28	426
Colonial Beach	26	721
Cornland	99	220
Coulwood	71	275
*Courtland	91	283
Covesville	20	230
*Covington	27	4,234
Crab Neck	94	566
Crewe	86	1,802
Crittenden	98	830
Crockett	99	226
Crozet	20	250
*Culpeper	15	1,795
D		
Damascus	72	1,299
Dandy	94	220
Dante	71	862
Danville	81	19,020
Dare	94	220
Dayton	12	516
Deep Creek	99	730
Deltaville	43	762
*Denbigh	95	426
Dendron	92	1,653
Dover Mines	34	250
Drakes Branch	83	703
Driver	98	226
Dublin	64	350
Dungannon	70	228
Dunnsville	40	290
E		
Eagle Rock	48	590
Earnest	94	626
East Falls Ch.	11	1,026
East Radford	65	2,022
East Stone Gap	68	391
Eastview	77	262
*Eastville	60	322
Eastville Sta.	60	226
Edgars	24	226
Edinburg	4	574
Elba	81	330
Elkton	12	873
Elliston	65	390
Elverton	68	349
*Emporia	89	2,018
Esmont	20	590
Ettricks	54	991
F		
*Fairfax	10	413
Fairwood	74	220
Falls Church	10	1,128
Falls Ch Sta.	11	1,066
Falmouth	16	326
*Farmville	52	2,971
Fentress	99	250
*Fincastle	48	479
Flake	87	200
Flat Top Yard	62	240
Flint Hill	7	237
*Floyd	77	379
Ford	87	226
Fordwick	19	626
Forestville	4	226
Ft. Blackmore	70	205
Fort Hunt	10	394
Fort Myer	11	1,060
Fortress Monroe	96	1,220
Fosters Falls	75	326
Foxhill	96	720
Franklin	91	2,271
Franklin City	45	236
Franklin Jct.	81	436
Franktown	60	362
Fredericksburg	23	5,874
Fries	74	1,775
*Front Royal	6	1,133
G		
Galax	74	755
*Gate City	70	599
Genito	35	200
Gertie	99	250
Gilmerton	99	636
Glade Spring	72	324
Gladeville	63	806
Glasgow	28	407
Glen Wilton	43	320
*Gloucester	53	228
Gordonsville	22	564
Grace	100	260
Graham	62	1,917
Grahams Forge	75	262
Gray	99	220
Great Bridge	99	226
Greenbackville	45	506
Greenville	19	350
Gressitt	39	326
Grimstead	59	330
Grottoes	12	736
*Grundy	61	264
Gwynn	59	550
H		
Hallieford	59	250
Halls Hill	11	496
Hamilton	3	315
Hampden Sidney	52	536
*Hampton	96	5,505
Harborton	45	350
Harpersville	95	862
Harris Grove	94	326
*Harrisonburg	12	4,874
*Heathsville	42	200
Herndon	10	802
Hicks Wharf	59	259
Highland Park	37	1,817
*Hillsville	76	288
Holland	98	236
Holstein Mills	73	590
Honaker	71	869
Horntown	45	236
Hot Springs	18	1,026
*Houston	82	516
Howardsville	20	336
I		
Indian Creek	99	250
Iron Gate	27	636
Irvington	44	1,026
Islandford	12	250
Ivanhoe	75	662
Ivor	91	262
J		
Jamesville	60	250
Java	81	252
Jetersville	53	200
*Jonesville	69	383
K		
Kasey	49	362
Keezletown	12	202
Keller	45	220
Kempsville	100	262
Keokee	69	526
Keysville	83	432
Kilmarnock	44	430
Konnarock	72	366
L		
Lacrosse	84	281
Lamberts Point	99	2,906
*Lancaster	44	200
Laurel	37	336
Laurel Grove	81	250
*Lawrenceville	88	1,733
*Lebanon	71	366
*Leesburg	3	1,597
*Lexington	28	2,931
Lignite	48	218
Lincoln	3	280
Linville	12	225
Lotus	68	200
*Lovington	30	390
Lowmoor	27	1,066
*Luray	5	1,218
Lynchburg	50	29,494
Lynhams	42	266
Lynnhaven	100	322
M		
McGaheysville	12	468
*Madison	14	580
Madison Hghts.	29	526
*Manassas	9	1,217
Manchester	54	9,715
*Marion	73	2,727
Marshall	8	250
*Martinsville	80	3,368
Maryus	58	200
*Mathews	59	335
Matoaca	54	661
Max Meadows	75	750
Meadowview	72	520
Meadowville	54	226
Menchville	95	226
Mendota	72	262
Messick	94	526
Middlebrook	19	368
Middleburg	3	263
Middletown	1	363
Midlothian	54	362
Miller School	20	362
Millwood	2	402
Mobjack	59	220
*Monterey	17	240
*Montross	26	426
Montvale	49	226
Moorings	92	320
Morrison	95	562
Motonun	59	226
Mt. Clinton	12	236
Mt. Crawford	12	228
Mt. Jackson	4	479
Mt. Sydney	19	221
Mulberry Island	95	350
N		
Narrows	46	975
Nassawadox	60	200
National Soldiers' Home	96	3,802
*Newcastle	47	733
New Market	4	638
Newpoint	59	300
Newport	46	222
Newport News	95	20,205
New River Depot	64	562
Norfolk	99	67,452
North	59	562
North Emporia	89	464
North Tazewell	62	312
Norton	68	1,866
O		
Occoquan	9	246
Ocean View	99	320
Odd	94	220
Onancock	45	1,001
*Orange	22	674
Osaka	68	362
Osborne	75	220
P		
Painter	45	366
Palmer	44	220
Parksley	45	528
Patterson	75	348
*Pearisburg	46	470
Pearisburg Station	46	267
Peers	34	200
Pennington Gap	69	792
Petersburg	87	24,127
Phoebus	96	2,394
Pine Beach	99	330
Pinners	99	1,566
Pocahontas	62	2,452
Poquoson	94	638
Port Norfolk	99	1,226
*Portsmouth	99	33,190
Potomac	9	559
*Powhatan	35	250
Preacher	68	390
*Princess Anne	100	302
Pughs	99	220
*Pulaski	61	4,807
Pungoteagne	45	431
Purcellville	3	388
R		
Radford	65	4,202
Ramble	82	350
Ransons	31	330
Rapidan	15	200
Rawlings	88	336
Reedville	42	920
Relee	11	330
Remington	8	251
Renoville	100	230
Richlands	62	743
Richmond (capital)	37	127,628
Ridgeway	80	393
Riner	65	250
Riverton	6	790
Riverville	29	266
Roanoke	66	34,874
*Rockymount	79	967
Rosslyn	11	562
Round Hill	3	379
Ruckersville	13	202
Rural Retreat	75	1,066
*Rustburg	50	321
S		
*Salem	66	3,849
Saltville	73	1,628
*Saluda	43	250
Saxis	45	730
School	37	333
Schoolfield	81	200
Schuyler	30	399
Scottsburg	82	297
Scottsville	20	283
Seddon	63	247
Severn	58	296
Sharps	41	200
Shenandoah	5	1,431
Shendun	12	456
Simplicity	85	563
Sinai	82	562
Smithfield	97	1,278
Snowville	64	312
Somerton	98	250
South Boston	82	3,516
South Hill	84	735
South Norfolk	99	3,026
Sperryville	7	426
Spottsylvania	23	150
*Stanardsville	13	350
Stanloyton	5	218
Starcave	75	290
*Staunton	19	10,604
Stephens City	1	483
Stonega	68	250
Strasburg		762
*Stuart	78	388
*Suffolk	98	7,008
*Surry	92	202
*Sussex	59	363
Swords Creek	71	230
T		
Tampico	94	562
Tangier	45	1,405
*Tappahannock	40	478
*Tazewell	62	1,230
Tazewell Station	62	320
Temperanceville	45	230
Theological Seminary	10	236
Timberville	12	240
Toano	93	1,206
Toms Brook	4	462
Toms Creek	68	722
Townsend	60	266

Cities and Villages of Virginia with 1910 Populations

Towns	*Loca.*	*Pop.*
Trout Dale	77	431
Troutville	48	326
U		
University	20	1,026
Upperville	8	296
Urbanna	43	475
V		
Vesuvius	28	230
Victoria	85	682
Vienna	10	578
Vinton	66	1,928
Virgilina	82	270
Virginia Beach	100	320
Virginia City	68	250
W		
Wachapreague	45	485
Wakefield	90	570
Wallace	72	250
*Warm Springs	18	590
*Warrenton	8	1,427
*Warsaw	41	230
*Washington	7	235
Waterford	3	331
Waterloo	15	250
Waverly	90	1,064
Waynesboro	19	1,389
West Norfolk	99	1,200
West Point	38	1,397
Whaleyville	98	409
Whealton	44	206
White Post	2	336
White Stone	44	350
Whitmell	81	226
*Williamsburg	93	2,714
Willis Wharf	60	200
*Winchester	1	5,864
Windsor	97	328
Winterpock	54	733
*Wise	68	538
*Woodstock	4	1,314
*Wytheville	75	3,054
Y		
Yards	62	240
Z		
Zumi	97	262

VIRGINIA

Native Soil of Seven Presidents of the United States—First Public School—Beginning of Silk Culture in America.

In history, birthplace of distinguished men and scenes of **important achievement** Virginia has been prominent in the events of civilization for **over 300 years.**

To assemble a number of people together, to go away into **unknown** America, found a settlement, maintain existence, obtain a support from the soil and finally grow into a **prosperous colony** has been the ambition of **tens of thousands** of people in the Old Country since the days of Columbus. It was not surprising, therefore, when Captain Gosnold, an Englishman, who had visited America, told Captain John Smith of the possibilities of this new land, that Smith should have been enthused with the idea of **getting together** a company of people for the purpose of exploring the New World and founding a colony in a region where the **leaders** of the expedition could be in supreme command.

FIRST VIRGINIA COLONY.

With that purpose in view an expedition, comprising 105 men, in three vessels, under command of Captain Newport, set sail from England **Dec. 19, 1606,** and arrived at a promontory of land in the James River, Maryland, debarked there, and began the building of the town **May 13, 1607.**

The site chosen was on a point of land projecting from the **north bank** of James River about 15 miles from its mouth. The encroachments of the river, since then, have converted the promontory into **an island,** and a portion of the site of the settlement has been entirely swept away.

RELICS OF THE FIRST SETTLEMENT YET REMAINING.

A part of the **old tower** of a church, believed to have been built by the colonists in 1619, and some of the **tombstones** are the only relics of the town left in 1907. Besides these on the island there has been a **private residence.** An exposition was held in 1907, to commemorate the 300th anniversary of the founding of this **first settlement,** and the rebuilding and **restoration** of the old Episcopal church has been made as near as may be, so that the tourist may find **additional** attraction in visiting the various points of interest hereabouts, which include Fortress Monroe, Williamsburg, Yorktown, Norfolk, Hampton Roads, the Chesapeake Bay, up to Annapolis and Baltimore, and the Potomac River, up to Washington.

NARROW ESCAPE FOR JOHN SMITH.

All Virginia is historic ground. At Jamestown, July 30, 1619, was held the **first colonial assembly** ever convened in America. Twelve years had gone by, since the first settlement, and **many events** had transpired in that time. On one occasion, the story goes, John Smith, a leader prominent among the whites, had been captured by the Indians, his head laid upon a stone, and as the savages were brandishing their clubs, preparatory to dashing out his brains, Pocahontas, a twelve-year-old daughter of the Indian chief, Powhatan, threw herself upon the captain's body, and her **intercession,** with her father, saved his life.

When Smith returned to Jamestown he sent her presents, and thenceforth she visited Jamestown as frequently as she did her father's habitation. Later, an acquaintance sprung up between her and an Englishman, named Rolfe, and the consent of her father and Sir Thomas Dale, the governor of the colony, having been obtained, they were married at Jamestown, April, 1613. A peace of **many years' duration** between the English and the Indians was the **result** of this union.

POCAHONTAS BAPTIZED.

Before her marriage she was baptized, receiving the name of Rebecca. In 1616, with her husband, she accompanied Dale to England, where she was an object of **great interest** to all classes of people and was presented at court. When Smith visited her in London, after saluting him she was so unnerved, she turned away her face and hid it in her hands, and remained in this position for two or three hours. She had been taught to believe that he was **dead** and there is no doubt that her husband was a party to the deception, he probably thinking she would never **marry him** while Smith was living.

DEATH OF POCAHONTAS.

Pocahontas prepared to leave England with **regret,** but she suddenly died as she was on the point of embarking. She left **one son,** Thomas Rolfe, who was educated by his uncle, a London merchant, and in after life **went to Virginia,** where he became a person of **note and influence.** The Bolling, Randolph, Fleming, and other families in that state are his descendants.

Eventful history followed with the colonists. Puritans from England had arrived, were enjoying religious freedom, and, on the whole, the colony was prospering, when orders were received and laws were passed, in 1643, compelling conformity with the church of England, followed by **fine and imprisonment** with those who would not accept. This caused an emigration from the colony by **the independents,** who went to Maryland and New England.

FIRST PUBLIC SCHOOL IN THE COLONY.

In 1643 a public school was opened. Silk culture was undertaken; trade became brisk with England, Holland and New England, and in 1649 the **colony was increased** by the arrival of 300 royalist fugitives. Then followed controversies with England, but, notwithstanding political contentions and Indian massacres, **in 1671** the population was claimed to be 40,000 with 2,000 black slaves.

The years passed on. The colonies grew in population and **dissatisfaction** with the oppressions imposed by the **mother country.** Patrick Henry was **reared** in Virginia, George Washington was from this state, Thomas Jefferson, James Madison, James Monroe, Harrison, Tyler and Taylor, **seven presidents,** all of them **natives** of the State and several of them residents—all came from Virginia.

The revolutionary war history is **full of names** closely identified with gaining the independence of America, clear down to the surrender of Cornwallis at Yorktown.

VIRGINIA MADE THE THEATER OF WAR.

Then came the Civil war, when, **unfortunately,** there was so much proslavery sentiment in the state as to carry for secession. Through this Virginia became the **theater** of many battles and the losses to the people were enormous, the desolated properties being yet seen on **many a side.** All of our older readers will recognize the familiar words "Richmond," "Aquia Creek," "Bull Run," "Antietam," "Winchester," "Cedar Run," "Shenandoah Valley," "Culpepper Court House," "Gettysburg," "Battles of the Wilderness," "Siege of Petersburg," "Lee," "Sheridan," "Grant" and a host of other great generals and brave men, both on the Union and Confederate side, who left their dead on many a battlefield in this state, clear on down through that terrific struggle to the final surrender of Lee at Appomattox Court House in Virginia.

Virginia Opportunities in Agriculture and Varied Enterprises

And so through all the **300 years** of history, from the founding of the **first settlement** in the United States at Jamestown, down to the Jamestown Exposition in 1907, the state has been celebrated for **great names** and **great events** which have molded the destinies of the nation.

A STATE OF GREAT NATURAL ADVANTAGES

Virginia is remarkable for its many natural **advantages** to people who seek the State to get support. The Civil war so greatly impoverished many estates as to cause their lands to be abandoned to dwarf pines and cedars. The **soil** on those plantations can **fortunately** be renovated by the free use of **gypsum and marl** which, in great abundance, is found in the State.

There are a variety of elevations, soils and climates, here. The eastern part of the state, bordering on the Atlantic ocean and Chesapeake Bay, is known as the **tidewater** region, with no elevations over 100 feet above sea level. Curiously, while the mountain ranges **extend across** the state, from northeast to southwest, the principal rivers flow from the northwest to the southeast. **Beyond** the tidewater region comes a range which **follows** across the state having an elevation of about **400 feet.** Westward come the **foothills** of the Blue Ridge, the Blue Ridge Mountains and the **great valleys** between the Blue Ridge and the Alleghenies, giving **variety** of soil, climate, and picturesque scenery.

CHARACTER OF THE SOILS.

The soil of the tidewater region is a light sandy loam, capable of yielding **large crops** of fruits and esculent vegetables, but it has been so greatly **worn out** by superficial cultivation, without manure, that many estates, formerly among the finest in the state, have been **greatly lowered** in worth and value. It is to these **once** fertile lands and **grand old Virginia homes** that the attention of land seekers should be directed. The broad verandas are there on those old colonial homes, the towering columns, the great front doors, the broad, long halls, the **massive** stairways and **imposing** newel posts at the foot of the landing, are **yet there,** in their regal grandeur, as they were **generations ago,** when blacks did all the work here, and the **aristocratic old owner** of the estate was rich in lands and slaves.

It takes but a few hours' ride from Washington to go down into the interior of Virginia and find there **fine old ancestral homes** that can be bought for a small fraction of what the **buildings** would cost that are now on the premises.

EASY TO INVESTIGATE THE OLD PROPERTIES.

It **can** readily be seen how the individual of **enterprise and taste** will bring back the landscape grounds to their former beauty, the phosphates and marls so abundant in the State spread over the land **bringing back** its fertility. The property bought so cheaply **now** in a few years will yield **handsome returns** in fruits and grains and the property will **regain** its former value.

A brief study of a recent railroad map will show that, aside from a good soil, the means of **transportation by rail,** and especially **by water,** to the great markets of the Atlantic Coast are such as to permit the **quick sale** of every agricultural and horticultural production at a good price.

SUPERIOR TRANSPORTATION FACILITIES.

It is seldom that a state is so abundantly blessed with **navigable interior waterways** and it is rare that a state has within itself so many resources by which its inhabitants may get support. Thus **profitable employment** may be found here in oyster cultivation on the Chesapeake, fisheries on the coast, lumber in the interior, coal and iron mines, entertainment of guests at summer resorts, sale of mineral waters, production of clay products, lime, salt, gypsum, marl, pottery, paints and **other** industries.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude.—Highest, Balsam Mountain, in Grayson Co., 5,700 feet.

Climate. — In mountainous sections short, severe winters, long, delightfully cool summers. In tidewater regions, mild winters and less healthful summers. Average annual temperature from 60 and 64 in the southeast and 48 and 52 in the mountainous regions. Summers hot in the east and southeast and in the vicinity of swampy lands billions of typhoid fever germs prevail. The region lying on or near Hampton Roads is, however, healthful and agreeable at all seasons of the year.

At Norfolk the average January temperature is 40 above zero, and July is 79. The extremes are, warmest 102 above, and coldest 2 above, with yearly rainfall of 52.1 inches.

At Lynchburg, Campbell Co., the average January temperature is 36 above, July 78; warmest 102, coldest 6 below, and yearly rainfall of 42.8 inches.

Collection of Debt.—Open accounts outlaw in 2 years, promissory notes in 5 years, judgments 20 years. Legal interest is 6 per cent, allowable rate 6 per cent. Limit of jurisdiction, justice of the peace, $100; exempt from forced sale, home and personal property, $2,000.

Dimensions.—Extreme length of the state, north and south, 205 miles. Extreme width, east and west, 425 miles. Area, 42,450 square miles.

History.—Oldest successful English colony; settled by 105 colonists at Jamestown, on James River, in James City Co., in 1607. Slavery introduced 1619. Williamsburg became capital in 1700. Richmond founded 1737; became capital 1779. Surrender of Cornwallis at Yorktown, Oct. 19, 1781. Seceded April 17, 1861. Surrender of Lee at Appomattox and close of the Civil war, April 8, 1865. Exposition at Hampton Roads, commemoratory 300th year of settlement at Jamestown, 1907.

Rockbridge Alum Springs and Rockbridge Baths—In Rockbridge County, Va., near Goshen, there are 5 fountains, brick cottages, a hotel, with fine grounds and beautiful scenery. Chronic dyspepsia, irritation of the stomach, scrofula and skin diseases are relieved by the waters. Near the springs are the Baths, on the shore of North River, amid pleasing scenery. Iron and carbonic-acid gas enter largely into the waters, which are recommended as a tonic.

Rawley Springs, Va.—Nestled in the midst of delightful scenery, in Rockingham County, 11 miles from Harrisburg, not far from the Luray Caverns, these 5 fine mineral springs, at an elevation of 2,000 feet above tide-water, invite the tourist to a pleasant retreat. The waters—strong chalybeate—possess tonic properties which, with the bracing mountain air, invigorates the visitor.

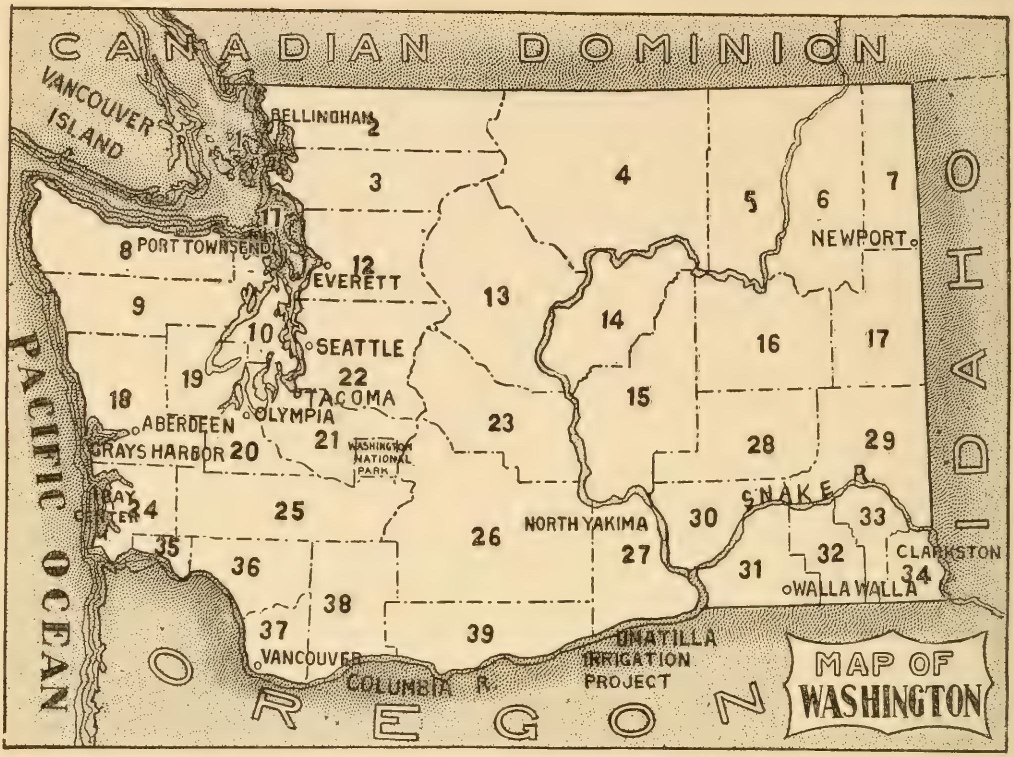
Richmond, Va.—Like ancient Rome, the beautiful capital of Virginia lays claim to seven hills. The city, besides all its natural and architectural advantages, possesses numerous objects of especial interest to visitors, including the grave of President Monroe, the famous Libby war-prison, the equestrian statue of Washington by the sculptor Crawford, as well as Houdon's statue of Washington in Revolutionary uniform, the elegant State House, and St. John's Church, where Patrick Henry delivered his memorable and eloquent speech on the eve of the Revolutionary War, in which he said with fervent patriotism: "There is no retreat but in submission and slavery!"

Old Point Comfort, Va.—This favorite Southern bathing and pleasure resort is three miles each from Hampton and Fortress Monroe, near the mouth of the James River as it empties into Chesapeake Bay. Near by is the Government Home for Soldiers. Surf-bathing, steamboat excursions, etc., enter largely into the recreations of visitors.

Natural Bridge of Virginia, in Rockbridge Co.—The fissure crossed by the bridge (which is a rock, covered with earth) is estimated at a depth of from 205 to 290 feet. This fissure is about 45 feet wide at the bottom and about 90 feet at the top. The length of the bridge is about 90 feet; its breadth, in the middle (or thinnest part) is about 60 feet; and at the summit, about 40 feet thick. A portion of this thickness is composed of soil, on which large trees have grown. The view from the top of the bridge is quite extensive and very pleasant, including North Mountain and the Blue Ridge. The stream passing under the bridge is a branch of the James River, called Cedar Creek.

STATE AND THE 39 COUNTIES OF WASHINGTON

With Their Boundaries



LOCATION AND 1910 POPULATIONS OF WASHINGTON COUNTIES

Loca.	*County*	*Pop.*
1	San Juan	3,603
2	Whatcom	49,511
3	Skagit	29,241
4	Okanogan	12,887
5	Ferry	4,800
6	Stevens	25,297
7	Pend D'Oreille	......
8	Clallam	6,755
9	Jefferson	8,337
10	Kitsap	17,647
11	Island	4,704
12	Snohomish	59,209
13	Chelan	15,104
14	Douglas	9,227
15	Grant	8,698
16	Lincoln	17,539
17	Spokane	139,404
18	Chehalis	35,590
19	Mason	5,156
20	Thurston	17,581
21	Pierce	120,812
22	King	284,638
23	Kittatas	18,561
24	Pacific	12,532
25	Lewis	32,127
26	Yakima	41,709
27	Benton	7,937
28	Adams	10,920
29	Whitman	33,280
30	Franklin	5,159
31	Walla Walla	31,931
32	Columbia	7,042
33	Garfield	4,199
34	Asotin	5,831
35	Wahkiakum	3,285
36	Cowlitz	12,561
37	Clarke	26,115
38	Skamania	2,887
39	Klickitat	10,180
	Total	1,141,990

Cities and Villages of Washington with 1910 Populations

Towns	*Loca.*	*Pop.*
A		
Aberdeen	18	13,660
Acme	2	200
Addy	6	396
Albion	29	320
Almira	16	365
Anacortes	3	4,168
Anatone	34	220
Arlington	12	1,476
*Asotin	34	820
Auburn	22	957
Avon	3	320
B		
Barneston	22	250
Bayne	22	250
Belfast	3	208
*Bellingham	2	24,298
Biglake	3	330
Black Diamond	22	561
Blaine	2	2,289
Bordeaux	20	390
Bossburg	6	247
Bothell	22	599
Bremerton	10	2,993
Brewster	4	296
Bridgeport	14	431
Brinnon	9	462
Bryn Mawr	22	220
Buckley	21	1,272
Bucoda	20	462
Burlington	3	1,302
Burnett	21	262
C		
Camano	11	250
Camas	37	1,125
Carbonado	21	850
Carson	38	250
Cashmere	13	625
Castlerock	36	998
*Cathlamet	35	352
Catlin	36	200
Center	9	350
Centerville	39	290
Centralia	25	7,311
Charleston	10	1,062
*Chehalis	25	4,507
Chelan	13	682
Cheney	17	1,207
Chesaw	4	250
Chewelah	6	823
Chinook	24	596
Christopher	22	200
Clarkston	34	1,257
Clayton	6	336
Clearlake	3	376
Cle Elum	23	2,749
*Colfax	29	2,783
College Place	31	866
Colton	29	393
*Colville	6	1,512

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of Washington with 1910 Populations

Towns	*Loca.*	*Pop.*
*Conconully	4	357
Concrete	3	945
Connell	30	826
Cosmopolis	18	1,132
Coulee City	15	276
*Coupeville	11	310
Creston	16	308
D		
Darrington	12	200
*Davenport	16	1,229
*Dayton	32	2,389
Deep River	35	226
Deer Park	17	875
Des Moines	22	350
Dixie	31	362
Dockton	22	226
Downs	16	226
Dryad	25	326
Du Pont	21	300
E		
Earlington	22	336
East Seattle	22	322
Eastsound	1	275
Eatonville	21	754
Edison	3	362
Edmonds	12	1,114
Elberton	29	330
Electron	21	296
Elk	17	526
*Ellensburg	23	4,209
Elma	18	1,532
Eltopia	30	226
Endicott	29	474
Enumclaw	22	526
*Ephrata	15	323
*Everett	12	24,814
Everson	2	250
F		
Fairfield	17	308
Fall City	22	420
Farmington	29	489
Ferndale	2	691
Fern Hill	21	1,066
Fort Flagler	9	350
Fort Steilacoom	21	1,106
Foster	22	340
Frances	24	200
Franklin	22	647
Fravel	3	200
Freeman	17	226
*Friday Harbor	1	422
G		
Garfield	29	932
Getchell	12	250
Gig Harbor	21	262
*Goldendale	39	1,203
Govan	16	266
Grandview	26	320
Granger	26	453
Granite Falls	12	714
Guy	29	323
H		
Hamilton	3	405
Harper	10	536
Harrington	16	661
Hartline	15	237
Hillyard	17	3,276
Hoquiam	18	8,171
Humptulips	18	250
Huntsville	32	225
I		
Ilwaco	24	664
Index	12	417
Inglewood	22	200
Ione	7	634
Irondale	9	1,062
Issaquah	22	628
J		
Johnson	29	200
Junction City	18	226
K		
*Kalama	36	816
Kamilche	19	522
Kangley Junction	22	233
Kapowsin	21	350
Kelso	36	2,039
Kennewick	27	1,219
Kennydale	22	590
Kent	22	1,908
Kettle Falls	6	377
Kiona	27	322
Kirkland	22	532
L		
La Conner	3	603
Lacrosse	29	350
Lake Park	21	262
Lakeside	13	222
La Push	8	231
Latah	17	339
Leavenworth	13	1,551
Leban	24	420
Lester	22	326
Lind	28	831
Little Falls	25	631
Little Rock	20	380
Lochsloy	12	362
Loomis	4	536
Lopez	1	226
Lyman	3	441
Lynden	2	1,418
M		
Mabton	26	666
McKenna	21	262
McMurray	3	328
Manette	10	220
Mansfield	14	266
Maple Falls	2	233
Marysville	12	1,239
Medical Lake	17	1,730
Meyers Falls	6	450
Miles	16	336
Milltown	3	262
Milton	21	448
Monroe	12	1,552
*Montesano	18	2,488
*Mount Vernon	3	2,381
Myrtle	8	350
N		
Napavine	25	326
Newcastle	22	547
*Newport	7	1,199
Northbend	22	362
Northport	6	476
*North Yakima	26	14,082
O		
Oakesdale	29	882
Oak Harbor	11	262
Oakville	18	465
Odessa	16	885
Okanogan	4	611
Olympia (capital)	20	6,996
Omak	4	366
Opportunity	17	433
Oroville	4	495
Orting	21	863
P		
Pacific	22	413
Palouse	29	1,549
Pampa	29	234
Parkland	21	588
*Pasco	30	2,083
Pe Eel	25	838
Pilchuck	12	250
Pleasant Beach	10	290
Point Roberts	2	220
*Pomeroy	33	1,605
*Port Angeles	8	2,286
Port Blakely	10	1,205
Port Gamble	10	622
Port Hadlock	9	260
Port Ludlow	9	350
*Port Orchard	10	682
*Port Townsend	9	4,181
Potlatch	19	203
Poulsbo	10	364
Prescott	31	502
Preston	22	436
*Prosser	27	1,298
Pullman	29	2,602
Puyallup	21	4,544
Q		
Quilcene	9	526
Quincy	15	264
R		
Ravensdale	22	463
Raymond	24	2,450
Reardan	16	527
Redmond	22	300
Regents Park	21	300
Renton	22	2,740
*Republic	5	1,000
Ridgefield	37	297
*Ritzville	28	1,859
Riverside	4	500
Roche Harbor	1	247
Rockford	17	663
Rosalia	29	767
Roslyn	23	3,126
Roy	21	315
Ruston	21	780
S		
Saint John	29	421
Satsop	18	200
*Seattle	22	237,194
Sedro Wooley	3	2,129
Selleck	22	230
Sequim	8	250
*Shelton	19	1,163
Silvana	12	362
Simpson	19	202
Skykomish	22	238
Snohomish	12	3,244
Snoqualmie	22	279
Sopenah	25	430
*South Bend	24	3,023
South Prairie	21	264
Spanaway	21	226
Spangle	17	326
*Spokane	17	104,402
Sprague	16	1,110
Springdale	6	251
Stanwood	12	544
Starbuck	32	761
Startup	12	250
Steilacoom	21	430
Stevenson	38	387
Sultan	12	576
Sumas	2	902
Summit	18	200
Sumner	21	892
Sunnyside	26	1,379
T		
Tacoma	21	83,743
Taylor	22	526
Tekoa	29	1,694
Tenino	20	1,038
Thomas	22	266
Thornton	29	322
Thorp	23	284
Toledo	25	375
Toppenish	26	1,598
Touchet	31	250
Tukwila	22	361
Tumwater	20	490
Twisp	4	227
Two Rivers	31	262
Tyler	17	200
U		
Uniontown	29	426
V		
Vanasselt	22	266
*Vancouver	37	9,323
Vashon	22	347
Vaughn	21	208
W		
Waitsburg	31	1,237
Waldron	1	262
*Walla Walla	31	19,364
Wallula	31	320
Wapato	26	462
Washougal	37	456
Washtucna	28	326
*Waterville	14	950
Waverly	17	318
*Wenatchee	13	4,050
Westport	18	262
White Salmon	39	682
Wilbur	16	757
Wilkeson	21	899
Wilson Creek	15	405
Winlock	25	1,140
Winona	29	302
Winslow	10	560
Woodinville	22	350
Woodland	36	384
Y		
Yacolt	37	435
Yakima	26	263
Z		
Zillah	26	225

WASHINGTON

Is called the "Evergreen State" from its extensive forests of evergreen trees, including the fir, spruce, cedar, pine and hemlock, which cover the mountains and seacoast region, and also from the fact that in the western part the winters are so mild that the grass remains green throughout the year. This great state has an area of 69,994 square miles, of which 3,114 are water, leaving 66,880 square miles of land, or 42,803,200 acres—about as much as Ohio and Indiana combined. It contains a great variety of surface, soil and scenery, and has two distinct climatic divisions, separated by the Cascade Mountains. West of these mountains the climate is as mild as that of North Carolina or Tennessee, owing to the influence of the warm Japan current which strikes its shores. There are nearly 2,600 miles of railway and 1,000 miles of navigable watercourses. A large portion of the surface is still covered with primeval forests. Nearly all of the state west of the Cascade Mountains is, by nature, a forest country; the most important and valuable timber being the red, or Douglas, fir.

The timber districts, where not mountainous, have, as a rule, a rich soil, which well repays the farmer for the labor of clearing the ground. Thus it will be seen that there is a great deal of good farming land in Washington. There are fertile government lands for free homesteads, and railroad lands are sold at low prices and on ten years' credit. The remarkable variety of resources offered by this great state, its peculiarly agreeable and healthful climate, its strikingly beautiful landscapes and snow-capped mountains, noble rivers, great estuaries of the sea, magnificent forests, charming lakes, and fertile prairies combine to make it a region particularly attractive to all who seek new homes in the great Northwest. Every settler can find the particular character of country best suited to his tastes, and the climate best adapted for his health and well-being.

The transportation facilities are abundant, schools and churches are numerous, the people are intelligent and progressive, and property is constantly increasing in value. The numerous growing towns invite mercantile, manufacturing, and professional enterprises.

WASHINGTON STATE

Two Divisions of the State—Each Has Its Particular Merit—Both Described.

In describing conditions in the State of Washington one could fill a large space relating to Seattle, Tacoma, Olympia and other cities, while description of the varied resources of Washington will show abundant reason for emigrating to this State.

Naturally, with so great a **variation** in the face of the country, and so **wide a difference** in climatic conditions, the reasons for going to **one** locality will be entirely unlike those which would exist in **another region.**

TWO DISTINCT PARTS OF THE STATE.

First, there are two distinct parts of the State, the result of the Cascade Mountains, which extend from north to the south. This divides the State into **eastern** and **Western** Washington. The western part comprises all the **waterway region** that borders the Pacific for a distance, north and south, of **180 miles,** in which section of the state, with Puget Sound, the lakes, bays and rivers, the area covered by **water** is about **2,000 square miles.**

From this broad space **moisture is ever rising,** which floats up to the tall mountains of the Cascades, and there on those lofty elevations, perpetually covered with ice and snow, the moisture congeals, falls there in snow, and leaves **very little** in the cloud to provide moisture for the landscape which spreads itself over **eastern** Washington.

ROSES BLOOM AT CHRISTMAS.

In Western Washington, which includes the Puget Sound country, there is really **no winter** and almost no ice or snow. Roses bloom in **December** and grass is green all the year round. **Fifty varieties of flowers** have been plucked out of doors even at Christmas. Winters are warm and moist, summers cool and dry.

In **eastern Washington** the climate is very different. It is much drier and somewhat colder in winter, dry and considerably warmer in summer, but the nights are always comfortably cool.

COLORADO CLIMATE.

At many points in eastern Washington is found almost the exact climate of Denver, Manitou and the Salt Lake Valley of Utah.

In some sections of eastern Washington irrigation is carried on and enormous fruit, grain and pasture crops are raised.

TIMBER AND PRAIRIE LAND.

Western Washington is a wooded country. Much of the land is covered with a dense growth of the **finest trees known in the world.** The mainland bordering Puget Sound is made up of mountain spurs, table lands, river valleys and fresh-water and tide-water marshes and deltas. These all, except marsh and delta, are timbered with unbroken forests. The **higher** altitudes grow fir, hemlock and spruce. The **table lands,** fir and spruce, and the **valleys,** fir, cedar, spruce, cottonwood, maple and alder.

This timber is surpassed in size only by the redwood forests of California.

The **valley lands** bordering the rivers and creeks are very rich and productive, especially in vegetables, fruits and succulent grasses. The forests of these valleys are fast breaking up before the woodman's ax and the farmer's plow. The **uplands** have been invaded but little, but where the forests are felled rich pasturage follows and in many places **great veins of coal** are found to underlie the surface or strike into the hillside. Marsh lands and deltas in their native state are overgrown with brush. They are **easily cleared** and reclaimed from overflow by dikes and ditches, when they produce the greatest tonnage of fine hay, the most prolific yield of oats, heavy hops, nice vegetables and fine orchards.

Eastern Washington as a whole is the **valley of the Columbia River,** as most of the surface is drained by this mighty stream, though there is a considerable extent of wooded and partially wooded country. The **great grain fields** of the Big Bend District are as level as the prairies of the Middle States. Around Spokane is a varied country comprising fine prairie land, also an abundance of timber land, especially in the foothills. All this land is wonderfully productive. Whatever a man wants in the way of land he can find and the quality of the soil is good almost everywhere.

NUMEROUS GREAT RIVERS.

Several great rivers course their way through eastern Washington, their valleys being wide, level plains on which, at various points, irrigation is being, and has been, introduced with great success.

FRUITS.

To properly describe the fruit-growing industry of Washington would fill a large book. Different parts of the State vary so much in altitude, rainfall, quality of soil, etc., that almost any fruits except the citrus family will thrive and bear bountiful harvests somewhere. To mention the kinds of fruit that do well is almost to **name them all.** West of the Cascade Mountains and along Puget Sound are grown magnificent specimens of apples, peaches, pears, quinces, plums, cherries, strawberries and all kinds of small fruits and berries. Apples have done wonderfully well on both the uplands and the islands. **Frost never injures** the fruit or prevents setting. Worm-eaten fruit is almost unknown.

ASSISTANCE FROM THE GOVERNMENT.

The United States Government is aiding in various irrigation projects. In the meantime private corporations have entered upon the project of supplying irrigation water to residents in certain districts. We quote here from the circulars of one of these irrigation companies in eastern Washington, located in the valley of the Yakima River, Yakima County, in order that our readers may know prices:

THE PRICE OF LAND.

The price of land in Yakima County varies according to its character and location. **Cheap lands** may be had for grazing. Wheat farms in the section where irrigation is not necessary may be had for from $5 to $20 per acre. In the irrigated valleys raw lands with **perpetual water rights** are on the market at from $30 an acre up to $125. The last named figures are for land near the railroad—the choicest that is left. Generally speaking raw land under the canals can be had for $50 to $75 an acre, and $125 an acre will buy the best producing alfalfa farms in the valley. Many improved farms within 10 or 12 miles of the railroad are available at even less than $60 per acre. Some land is **selling much higher** than any figures here given, but the high-priced land usually is suitable for suburban residences or has expensive improvements, such as good buildings, bearing orchards or hop yards.

Terms of sale are usually made upon a basis of **one-third or one-fourth** cash and the balance in four or five equal annual payments, with interest on deferred payments at six or eight per cent per annum. An annual fee for maintenance of canal and laterals is charged on all the canals. This fee varies from **25 cents to $1.50 per acre.** Yakima lands may seem high to farmers who are accustomed to the ruling values in the prairie states, but the price of land must depend upon its fertility and the class of its productions, its proximity to and the excellence of its markets—in short, upon its earning capacity, and judged by these standards, land in the Yakima valley is **cheap and not dear.** Judging by the history of other irrigated districts, Yakima valley lands will in a few years be worth $300 to $1500 an acre.

STOP OFF AND STUDY THE CONDITIONS.

In going over to the Puget Sound country by way of the Northern Pacific railroad it will be well to **stop at North Yakima,** in Yakima County, and see for one's self the results of irrigation. Before going obtain from the Great Northern and the Northern Pacific their literature relating to Washington. We clip the following from one of the irrigation circulars:

Washington Opportunities in Agriculture and Varied Enterprises

HOW TO MAKE A TEN ACRE TRACT PAY ITS WAY FROM THE START.

"Of course I know it pays better to raise fruit than it does to raise hay and corn, but how am I to get along until my trees begin to bear?" This is the first thought that occurs to the man with small capital who is ambitious to increase his income and make his way in the world. He has been told that it takes from four to six years to get any returns from an orchard and the long wait makes it look impossible that he should ever become an orchardist. For the information of such men we have prepared this schedule, showing just how a man with money enough to make his first payment on his land and to build him a small house can make his land support him from the start and pay for the land as well. This has been done many times right here in Yakima.

TEN ACRES IN FRUIT MAKE A MAN INDEPENDENT.

Reserve one acre for house, barn and kitchen garden.

Plant six acres in apples and peaches, alternate rows, seventy of each kind, or 140 trees to the acre, total 840 trees.

Plant three acres in pears and peaches, alternate rows, 100 of each kind, 200 to the acre, or 600 trees.

Around the young trees plant nine acres in potatoes. The same cultivation required for the potatoes will cultivate the trees. Plant twenty-five cherry trees along the road and blackberries and raspberries along the fences.

First Year's Receipts:

90 tons of potatoes, 10 tons to the acre at $14 per ton		$1,260
Less expense of planting young trees	$180	
Less expense of planting potatoes	90	270
Net for work on first year		$ 990

Second Year Receipts:

90 tons potatoes at $14	$1,260
Get some berries this year also.	
No new expense, so net for work second year	$1,260

Third Year Receipts:

Peaches and pears begin to bear, also cherries.	
720 boxes peaches from 720 trees, at 50 cents	$ 360
300 boxes pears from 300 trees at $1	300
45 tons potatoes at $14	630
Blackberries and raspberries	50
Gross third year	$1,340
Less 1,020 boxes at 10 cents	$ 102
Net for work third year	$1,238

Fourth Year Receipts:

2,880 boxes peaches, 720 trees, at 50 cents		$1,440
1,200 boxes pears, 300 trees, at $1		1,200
300 boxes apples, 420 trees, at $1.25		375
1,250 pounds cherries at 8 cents		100
Berries		50
		$3,165
Less 4,380 boxes at 10 cents	$438	
Extra help	500	938
Net for work		$2,227

Fifth Year Receipts:

Peach and pear trees in full bearing.		
7,200 boxes peaches, 720 trees, at 50 cents		$3,600
3,000 boxes pears, 300 trees, at $1		3,000
1,200 boxes apples, 420 trees, at $1.25		1,500
1,500 pounds cherries, at 8 cents		120
Berries		50
		$8,270
Less 11,400 boxes at 10 cents	$1,140	
Extra help	1,000	2,140
		$6,130

AVERAGE YIELD PER ACRE.

Hops	one ton
Potatoes	ten tons
Timothy, first cutting	four tons
Timothy and clover, second cutting	two tons
Alfalfa, three cuttings	seven tons
With from two to six weeks' pasture.	
Fruits vary according to age and varieties of trees.	
Apples, 70 trees per acre	500 to 2,000 boxes
Pears, 100 trees per acre	200 to 1,000 boxes
Peaches, 100 trees per acre	200 to 2,000 boxes
Apricots, 120 trees to acre	200 to 2,000 boxes
Cherries	100 to 1,000 pounds per tree
Grapes	from $200 to $800 per acre
Berries	from $200 to $700 per acre

PRICES.

Hops, from	10c to 30c per pound
Potatoes, from	$12 to $25 per ton
Timothy	$12 to $14 per ton
Timothy and clover	$9 to $11 per ton
Alfalfa	$7 to $9 per ton
Fruit varies according to quality and variety.	
Apples average	$1.25 per box
Pears average	$1.00 per box
Peaches average	50 cents per box
Apricots average	40 cents per box
Plums average	35 cents per box
Cherries average	8 cents per pound
Strawberries average	per crate, $3.00

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude.—Highest in the state, Mount Rainier in Pierce county, in the Cascade Range, 14,526 feet. Mount Baker, 10,827 feet.

Climate.—Generally healthful of western Washington; moist, uniform and heavy winter rainfall. Eastern Washington, hot, dry summers, with generally short cold winters. Average yearly.

Dimensions.—Extreme length of state, north to south, 230 miles; width, east to west, 340 miles; area, 69,180 square miles. Three-fifths of the state included in eastern Washington coast line. Pacific Coast line 180 miles. Puget Sound with its inlets and arms has a shore line of 1,594 miles. Strait of Guan de Fuca, 95 miles long, average width, 11 miles. Rise and fall of the tides, 18 feet.

History.—The region discovered by Juan de Fuca, a Greek, 1592. Visited by Spanish navigator, 1775, and three years afterward by Captain Cook. Captain Gray ascended Columbia River, 1792; by Lewis and Clark, 1804-5. Fur traders settled near the mouth of the Columbia, 1811. Catholic mission established at Vancouver, 1838. American settlement at Tumwater, 1845. Washington Territory organized and Seattle platted, 1853. Frazer River gold excitement, 1858. Admitted to the Union, 1889.

FRUIT GROWING.

Fruit growing is principally carried on in three different sections in western Washington — in the islands of the upper Puget Sound, in Island and San Juan Counties; in the more southerly portion of Puget Sound, embracing the White River and Puyallup Valleys and King and Pierce Counties, and in parts of Clark County, bordering on the Columbia River.

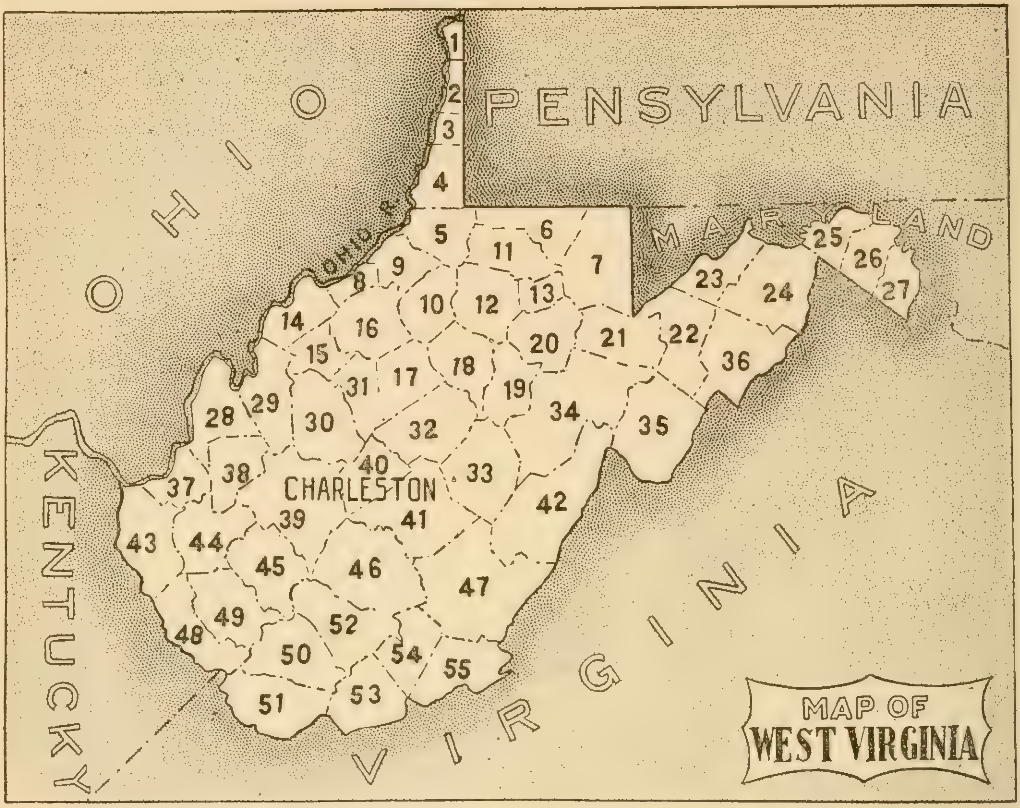
In the Island section cherries, strawberries, blackberries, raspberries, plums, pears and apples attain a size and quality hard to match anywhere, while fruit and vegetables of all sorts reach the market earlier from this district than from any other part of western Washington.

In the Puyallup and White River Valleys all the fruits mentioned above can be grown, but perhaps berry growing is given the greatest prominence. During the last six years the crop of berries has grown from about 300 crates, which then realized only 80 cents a crate, to 20,000 crates in 1902, which averaged $1.50 a crate. The estimated crop for 1903 was 50,000 crates, and that quantity is expected to be doubled this year. From one acre of raspberries near Puyallup an income of $500 has been realized in a single year. From two and one-half acres of raspberries in the same locality 1,000 crates were gathered in 1903. Land which produces results of this kind is not in the market for sale at any price, but unimproved land adapted for this purpose in the neighborhood of Sumner and Puyallup is worth from $100 to $250 an acre.

In Clark County, on the Columbia River, prune growing is carried on extensively and successfully. There seems to be just the quality of soil and the amount of rainfall needed to produce the best results with this crop. At present about 100 carloads of prunes are shipped annually.

STATE AND THE 55 COUNTIES OF WEST VIRGINIA

With Their Boundaries



LOCATION AND 1910 POPULATIONS OF WEST VIRGINIA COUNTIES

Loca.	*County*	*Pop.*
1	Hancock	10,465
2	Brooke	11,098
3	Ohio	57,552
4	Marshall	32,388
5	Wetzel	29,855
6	Monongalia	24,334
7	Preston	26,341
8	Pleasants	8,074
9	Tyler	16,211
10	Doddridge	12,672
11	Marion	42,794
12	Harrison	48,381
13	Taylor	16,554
14	Wood	38,001
15	Wirt	9,047
16	Ritchie	17,875
17	Gilmer	11,379
18	Lewis	18,281
19	Uphur	16,629
20	Barbour	15,858
21	Tucker	18,675
22	Grant	7,838
23	Mineral	16,674
24	Hampshire	11,694
25	Morgan	7,848
26	Berkeley	21,999
27	Jefferson	15,889
28	Mason	23,019
29	Jackson	20,956
30	Roane	21,543
31	Calhoun	11,258
32	Braxton	23,023
33	Webster	9,680
34	Randolph	26,028
35	Pendleton	9,349
36	Hardy	9,163
37	Cabell	46,685
38	Putnam	18,587
39	Kanawha	81,547
40	Clay	10,233
41	Nicholas	17,699
42	Pocahontas	14,740
43	Wayne	24,081
44	Lincoln	20,491
45	Boone	10,331
46	Fayette	51,903
47	Greenbrier	24,833
48	Mingo	19,431
49	Logan	14,476
50	Wyoming	10,392
51	McDowell	47,856
52	Raleigh	25,633
53	Mercer	38,371
54	Summers	18,420
55	Monroe	13,055
	Total	1,221,119

Cities and Villages of West Virginia with 1910 Populations

Towns	*Loca.*	*Pop.*
Academy	42	209
Acme	39	502
Adamston	12	1,202
Adkin	50	209
Affinity	52	208
Albert	21	390
Alderson	55	1,252
Alexander	19	366
Algoma	51	366
Alumville	39	320
Alvy	9	738
Alvord	30	229
Amos	11	1,509
Anawalt	51	330
Ansted	46	1,030
Arroyo	1	200
Ashland	51	250
Athens	53	575
Auburn	16	209
Austen	7	320
Avis	54	1,432
B		
Backus	46	209
Baileysville	50	250
Bakerton	27	561
Barboursville	37	907
Barnestown	11	655
Barnum	23	266

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of West Virginia with 1910 Populations

Towns	*Loca.*	*Pop.*
Barrackville	11	250
Bass	36	220
Baxter	11	620
Bayard	22	417
Beale	28	226
*Beckley	52	2,161
Beech	31	262
Beechwood	6	626
Belington	20	1,481
Belleville	14	208
Bellton	4	336
Belmont	8	250
Benwood	4	4,976
*Berkley Spgs.	25	864
Berryburg	20	590
Berwind	51	536
Beth	39	350
Bethany	2	433
Beulah	34	336
Beury	46	520
Beverly	34	438
Bigfour	51	526
Big Springs	31	220
Black Betsy	38	520
Blacksville	6	204
Blaine	23	1,290
Blakeley	39	366
Bluefield	53	11,090
Blue Jay	52	509
Bolivar	27	687
Bolt	52	221
Boomer	46	1,020
Boone	46	220
Boothsville	11	363
Borderland	48	250
Bowen	43	262
Bower	32	320
Boylen	20	226
Bradshaw	51	226
Bramwell	53	825
Branchland	44	522
Bridgeport	12	464
Brighton	28	262
Bristol	12	220
Brooklyn	5	566
Brooks	54	820
Brownwood	46	562
*Buckhannon	19	1,589
Buckhorn	7	320
Buffalo	38	565
Bunker Hill	26	262
Burner	42	350
Burning Spngs.	15	542
Burnsville	32	890
Burton	5	250
Byrnside	38	396
Byron	12	250
C		
Cairo	16	653
Camden on Ganley	33	390
Camp	40	223
Cane Fork	39	350
Cannelton	39	200
Capon Bridge	24	256
Carbon	39	320
Carbondale	46	726
Cascade	7	226
Cass	42	426
Catawba	11	220
Cedargrove	39	226
Centerpoint	10	266
Centerville	19	250
Central Station	10	292
Ceredo	43	1,375
Chapmanville	49	250
Charleston (Capital)	39	22,996
*Charles Town	27	2,662
Chattaroy	48	562
Chelyan	39	526
Chesapeake	39	250
Chester	1	3,184
Cleremont	46	666
*Clarksburg	12	9,201
Clator	3	526
*Clay	40	526
Clendenin	39	815
Clifftop	46	490
Clifton	28	360
Clifton Mills	7	606
Coalburg	39	260
Coaldale	53	326
Coal Fork	39	350
Coalton	54	325
Coalwood	51	350
Coketon	21	2,026
Colliers	2	436
Concho	46	336
Confidence	38	222
Congo	1	262
Coopers	53	326
Cora	49	250
Cornwallis	16	200
Cossie	44	436
Cottageville	29	226
Cowen	33	312
Craigsville	41	336
Cranberry	52	209
Crawley	47	209
Crescent	46	420
Crosby	40	262
Crown Hill	39	240
Crystal	53	526
Curtin	41	226
D		
Dacota	39	226
Dallas	4	212
Danville	45	326
Darkesville	26	225
Davis	21	2,615
Decota	39	200
Denver	4	333
Diana	33	266
Dingess	48	250
Dobbin	22	536
Donwood	39	536
Donze	31	236
Dotham	46	226
Douglas	21	330
Duffiields	27	250
Dunlevie	42	336
Dunloop	46	526
Dunlow	43	533
Durbin	42	390
E		
Eagle	46	1,590
Eastbank	39	551
East Sewell	46	290
Eccles	52	428
Eckman	51	1,099
Edgarton	48	306
Edgewood	3	1,455
Eglon	7	200
Egypt	43	326
*Elizabeth	15	674
Elk Garden	23	438
Elkhorn	51	1,220
*Elkins	34	5,260
Elkridge	46	362
Elkwater	34	320
Ellamore	34	508
Ellenboro	16	204
Elm Grove	3	1,899
Elverton	46	250
Emmons	39	226
Ennis	51	326
Erbacon	33	296
Eskdale	39	350
Ethel	49	226
Eureka	8	226
Eventon	39	250
F		
*Fairmont	11	9,711
Fairview	1	407
Fairview	11	782
Fairview	43	384
Falling Spring	47	270
Farmington	11	519
Fayette	46	490
*Fayetteville	46	671
Fenwick	41	502
Fetterman	13	796
Finlow	46	220
Fire Creek	46	250
Flanagan	51	220
Flatrun	11	266
Flat Wood	32	284
Flemington	13	250
Foley	49	262
Follansbee	2	2,031
Folsom	5	622
Fort Gay	43	526
*Franklin	35	226
Freeman	53	1,090
Friendly	9	217
Frozen	31	202
Fulton	3	1,038
G		
Gary	51	1,208
Gassaway	32	1,086
Gauley Bridge	46	582
Gentry	46	508
Gerrardstown	26	225
Geatto	53	1,083
Gilliam	51	220
Girta	16	250
Given	29	330
Glady	34	281
Glen	40	226
Glendale	4	220
Glen Falls	12	250
Glen Ferris	46	320
Glen Jean	46	722
*Glenville	17	336
Glen White	52	562
Goodwill	53	526
Gormania	22	502
*Grafton	13	7,563
*Grantsville	31	282
Granville	6	250
Grape Island	8	230
Great Cacapon	25	350
Griffithsville	44	250
Gulf	52	260
Guyan	50	220
Guyandotte	37	1,702
Gypsy	12	662
H		
Hackers Junc'n.	20	226
Halcyon	49	308
Halltown	27	380
Hambleton	21	1,302
Hamiltonia	30	230
*Hamlin	44	660
Handley	39	562
Hansford	39	250
Harpers Ferry	27	766
*Harrisville	16	608
Hartford	28	358
Hedgesville	26	328
Heights	28	275
Helvetia	34	280
Hemphill	51	390
Henderson	28	286
Hendricks	21	640
Henry	40	392
Henry	22	339
Herberton	46	326
Herndon	50	720
Hewlet	43	326
Hico	46	200
Hilltop	46	761
*Hinton	54	3,656
Holden	49	2,026
Hollidays Cove	1	222
Horton	34	1,066
Hotcoal	52	350
Howesville	7	226
Hubbardstown	43	326
Huger	51	260
Hughestown	39	226
Hundred	5	557
Hunt	39	226
Huntersville	42	320
*Huntington	37	31,161
Hurricane	38	422
Hutchinson	11	226
Huttonsville	34	251
I		
Iaeger	51	362
Independence	7	303
Institute	39	200
Irona	7	320
Ivydale	40	236
J		
Janelew	18	327
Jed	51	236
Jennings	32	263
Junior	20	435
K		
Kanawha City	39	863
Kay Moor	46	530
Kearneysville	27	462
Kenova	43	992
Kerstetter	34	236
*Keyser	23	3,705
Keystone	51	2,047
Kilsyth	46	730
Kimball	51	1,630
Kimberly	46	280
Kincaid	46	308
*Kingwood	7	822
Kyle	51	262
L		
Lanark	52	526
Landgraff	51	302
Landisburg	46	330
Laneville	21	333
Lansing	46	200
Launa	52	362
Lawton	46	526
Lazearville	2	523
Leander	46	230
Leon	28	240
Lester	52	536
Lewis	39	1,209
*Lewisburg	47	803
Lewistown	39	369
Littleton	5	712
Lizemores	40	526
Locust Lane	28	275
*Logan	49	1,640
London	39	226
Longacre	46	250
Lookout	46	230
Lost City	36	230
Lost River	36	236
Lough	16	265
Lumber	34	666
Lumberport	12	656
M		
Mabie	34	362
Mabscott	52	561
McAlpine	52	226
McDowell	51	1,536
McMechen	4	2,921
Macdonald	46	1,153
*Madison	45	295
Mahan	46	200
Malden	39	355
Mamie	40	326
Mammoth	39	1,022
Mannington	11	2,672
Maplewood	46	296
*Marlinton	42	1,045
Marmet	39	650
Marshes	52	290
Marting	46	420
*Martinsburg	26	10,698
Marvel	46	250
Mason	28	784
Mason Town	7	520
Masseysville	52	390
Matewan	48	588
Maybeury	51	2,026
Meadow Creek	54	250
*Middlebourne	9	546
Middleton	11	526
Middleway	27	466
Mill Creek	34	740
Millwood	29	350
Milton	37	837
Minerva	44	433
Mink	39	226
Minnora	31	308
Mohawk	51	226
Monongah	11	2,084
Montana Mines	11	450
Montgomery	46	1,888
*Moorefield	36	646
Morgansville	10	339
*Morgantown	6	9,150
Morlan	7	200
Mound	39	262
*Moundsville	4	8,918
Mount Carbon	46	432
Mount Clare	12	250
Mount Hope	46	494
Mount Nebo	41	226
Mucklow	39	490
Mullens	50	230
N		
Nestorville	20	296
Nettie	41	290
Newburg	7	823
*New Cumberland	1	1,807
New Haven	28	750
*New Martinsville	5	2,176
New Richmond	54	333
Northfork	51	425
North Point Pleasant	28	452
Nuttallburg	46	430
O		
Oak Hill	46	764
Oakvale	53	278
Odell	39	303
Ogden City	46	210
Olcott	39	520
Olmsted	51	260
O'Neal	46	326
Orleans Cross Roads	25	250
Oswald	52	275
P		
Page	46	509
Paint Creek Junction	39	250

Cities and Villages of West Virginia with 1910 Populations

Towns	*Loca.*	*Pop.*
Palestine	15	225
Panther	51	309
*Parkersburg	14	17,842
*Parsons	21	1,780
Patterson	3	713
Paw Paw	25	725
Pear	52	320
Pennsboro	16	930
Penrith	1	309
*Petersburg	22	350
Peterstown	55	257
Peytona	45	230
*Philippi	20	1,038
Pickens	34	626
Piedmont	23	2,054
Pine Grove	5	474
*Pineville	50	334
Pittman	46	250
Pleasant Valley	3	346
Plymouth	38	390
Poca	38	350
*Point Pleasant	28	2,045
Pondgap	39	226
Powellton	46	413
Powhatan	51	450
Pratt	39	306
Premier	51	220
Price Hill	52	320
Prince	46	251
*Princeton	53	3,027
Procious	40	206
Proctor	5	250
Prosperity	52	330
Prosperity Station	52	250
Prudence	46	406
Pruntytown	13	420
Pullman	16	230
Putney	39	426
Q		
Quiet Dell	12	250
Quinnimont	46	466
R		
Raleigh	52	350
Rapp	48	222
Ravenswood	29	1,081
Red House	38	226
Red Jacket	48	1,202
Redstar	46	536
Reedsville	7	208
Reedy	30	313
Renick	47	270
Richwood	41	3,061
Ridgeley	23	596
*Ripley	29	591
Rippon	27	236
Riverside	39	236
Robson	46	250
Rock	53	530
Rolfe	51	330
*Romney	24	1,112
Ronceverte	47	2,157
Roneys Point	3	236
Rosemont	13	330
Rowlesburg	7	936
Royal	46	260
Rush Run	46	390
S		
Sabraton	6	790
Saint Albans	39	1,209
Saint George	21	245
*Saint Marys	8	1,358
Salem	12	2,169
Salmon	48	308
Salt Sulphur Springs	55	296
Sand Fork	17	222
Sandstone	54	326
Sandyville	29	250
Sardis	12	326
Saxman	41	406
Sayre	29	262
Scarbro	46	1,533
Seth	45	226
Sewell	46	225
Sharon	39	362
Shaw	23	250
Shenandoah Junction	27	320
Sheperdstown	27	1,070
Sheridan	44	226
Sherrard	4	360
Shinnston	12	1,224
Simmons	53	1,060
Simpson	13	225
Sioto	44	200
Sistersville	9	2,684
Skelton	52	309
Slab Fork	52	250
Sleepy Creek	25	306
Smithfield	5	765
Sophia	52	202
South Buckhannon	19	2,681
South Carbon	39	220
South Charleston	39	530
South Keyser	23	692
So. Rush Run	46	336
*Spencer	30	1,224
Spillman	28	250
Sprague	52	250
Star City	6	318
Stealey Heights	12	511
Stone Cliff	46	630
Stumptown	17	697
*Summersville	41	204
Summit Point	27	330
Sun	46	800
*Sutton	32	1,121
Sweetsprings	55	250
Sylvia	52	490
T		
Talcott	54	620
Terra Alta	7	1,126
Thacker	48	262
Thayer	46	520
Thoburn	11	220
Thomas	21	2,354
Thurmond	46	315
Triadelphia	3	261
Tunnelton	7	792
Twin Branch	51	490
Tyrconnell	13	320
U		
Ungers Store	25	262
*Union	55	298
Uniontown	5	200
V		
Valley Bend	34	688
Villa	39	262
Vivian	51	662
W		
Wabash	23	266
Wake Forest	39	222
Walton	30	236
War Eagle	48	1,500
Watoga	42	390
Watson Siding	11	519
*Wayne	43	530
Webster	13	262
*Webster Sps.	33	526
Weirton	1	426
*Welch	51	1,526
*Wellsburg	2	4,189
West Columbia	28	205
West Grafton	13	1,590
West Hamlin	44	290
West Liberty	3	350
*Weston	18	2,213
*West Union	10	779
West Vivian	51	1,630
Wevaco	39	208
*Wheeling	3	41,641
White Sulphur Springs	47	338
Whitmer	34	650
*Williamson	48	3,561
Williamstown	14	1,139
Wilsonburg	12	350
Winding Gulf	52	228
*Winfield	38	291
Winifrede	39	226
Winona	46	3,066
Winterburn	42	326
Witcher	39	330
Womelsdorf	34	665
Woodman	47	490
Woodsdale	3	831
Worth	51	330
Worthington	11	292
Wright	52	250
Wyndal	46	220
Wyoming	51	230

WEST VIRGINIA

A State with the Finest of Public Buildings Paid For and State Out of Debt

GENERAL DESCRIPTION

The impression may prevail that it would not be possible to **take off** a slice of territory from the northwest corner of **old Virginia** and get a state, the area of which would be of **much** consequence; nevertheless, that was done and our regret is, as we write this brief sketch, that we cannot **more fully show** the numerous public state buildings, the educational institutions, the manufactories, the hotels and other features of public interest which abound in this young state.

SIZE OF WEST VIRGINIA

But, though only a **portion** of Virginia was taken, it gave the people of West Virginia an area of territory comprising 24,715 square miles. To judge the **size** of this the reader has only to understand that this area is almost **twenty** times that of Rhode Island, **twelve** times that of Delaware, **five** times that of Connecticut, **three** times that of Massachusetts, more than **twice** that of Maryland, **twice** that of Belgium, **twice** that of Holland, a **third** larger than Denmark, and more than a third larger than Switzerland.

It is seen in this that the piece taken was **no very small**, little slice either. But that was not all. Virginia had passed the **ordinance of secession** April 17, 1861. In the convention which passed the act, of the forty-six delegates, from the territory now comprising this state, **twenty-nine** voted **against** secession.

HOW WEST VIRGINIA KEPT OUT OF THE WAR

A general election in Virginia was called for May 23, 1861, to act upon **ratification** of the act of secession. A count of the votes from the counties comprising the present West Virginia showed, that, out of 44,000 votes cast from this territory, 40,000 were **opposed** to secession.

Then followed conventions at Wheeling in which provisions were made for forming a **new state**. Application for admission to the Union was made to Congress and permission was granted on condition that slavery should be abolished in the new state.

EXTERMINATION OF SECESSION ELEMENT

The result of the definite stand taken by the West Virginia people was the driving out of the secession element from this portion of the country, and the giving to the Union cause of 20,000 soldiers. The **great beneficial** effect was the escape of West Virginia from becoming the battle ground of the contending forces, while the horrors of war were centered on the territory of **old Virginia.** Beginning thus a **free state**, and pledged to the Union cause, the prosperity of the new state has gone steadily on ever since the day of its birth. Something of its wealth and resources is shown in that item relating to the state under the head "Productions."

PROSPERITY ON EVERY SIDE

Among the evidences of prosperity is a superior state home erected in 1885, at a cost of $390,000; hospitals for the insane, and an asylum, Miners' hospitals, penitentiary, reform schools for boys, and industrial schools for girls. University buildings and grounds, university preparatory schools at Montgomery and at Keyser, state normal school, branches of the normal school at Fairmount, West Liberty, Shepardstown, Glenville, Athens, school for deaf and blind, and two institutes for colored students. These schools are nearly **all** in large imposing buildings, and everything about them having the **latest** improvements.

THE STATE OUT OF DEBT.

Another matter we wish the landseeker to observe, which is, that while this state is evidently at the **very head** in modern public buildings, the state is **not in debt** one dollar! And not only that, but the **tax rate** on each $1,000 is only **85 cents.** Under the head of "valuations" it is interesting to see this tax rate with states in general.

West Virginia Opportunities in Agriculture and Varied Enterprises

The **prosperity** which has come to this state is partially explained by the **enormous resources** of the state. This is seen under the head of "Productions." But it is only partly explained there from the fact, that while we mention the revenue from a **few** items the income from minerals alone, in one year, is $74,731,376.

WHAT ABOUT THE FUTURE.

But if this young state can at this age, in her history, have **all** of her public buildings in such fine condition, all **paid** for, and the state be out of debt, with only a tax rate of 85 cents on a thousand dollars, what of the future?

Let us investigate for the benefit of the land investor and home seeker who contemplates removal but is undetermined yet **where** to go.

The coal area of West Virginia covers over 16,000 square miles, the **seams of coal** in some places being 250 feet thick. Great beds of this fuel adjoin the Ohio river, the Baltimore and Ohio Railroad, and other lines of transportation, convenient for shipment. This fuel, in unlimited amount, which brings into the state annually, over $30,000,000, contains every quality of cannel, splint, coking, black and bituminous coal, and all these varieties are in thick and **easily worked** veins.

A GREAT FUTURE COMING IN IRON

Iron ore exists in twenty-two counties; the best ores being, according to the state geologist, in Grant, Pendleton, Hardy, Pocahontas and Greenbrier counties. As yet the people have been so busy with other enterprises that the **iron industry** has not been developed, but the supply is here for great manufactories when **time** comes for their establishment.

Fire clay and potter's clay is found here in such abundance as to bring over **$2,000,000** annually into the state from the manufacture of clay products.

There being only comparatively few persons to the square mile here, there has been as yet but little inducement, and no time to begin the extensive manufacture of woodenware. But when piano makers, furniture workers and vehicle dealers are ready, they should know that there are **11,776,000 acres**, in West Virginia, covering 73 per cent area of the state which, at the prevailing price of lumber would be worth, it is estimated, more than twelve hundred millions of dollars.

Under the head of "Productions" and department of "Manufactures" it is seen that the value of manufactured products in West Virginia annually is over $128,000,000.

Our space does not permit us to enumerate fully —but in brief there are in making flour and gristmill products, 730 establishments, 16 glass factories, 23 factories for car building and repairs, 62 foundry and machine shops, and 83 planing mills..

It is difficult to predict what the leading industries **will be** in the future inasmuch as so many are yet waiting on time and capital for development.

There are some ten points in the state where there are sulphur, medicinal and mineral springs. Some of these are famous as pleasure and health resorts.

SALT, BRICK AND DRAIN TILES

There are numerous **salt wells,** and salt is just **beginning** to be made as a marketable commodity.

Much of the soil is composed of a clay suitable for the making of fire brick, sewer and drain tiles. With the immense amount of this raw material accessible there can be **unlimited** expansion in this industry.

About two-thirds of the people are engaged in agriculture, and with the favorable conditions which prevail in West Virginia this must always be the **leading** industry of the state.

By the census of 1900 it was shown that only about **one-half** of the agricultural land of the state was improved and that over 5,000,000 acres are, at this writing, unimproved.

GREAT FIELD FOR THE TRUCK GARDENER.

The growth of population in the various industries, outside of agriculture, is making a local market for the sale of **all kinds** of garden products. And the attention of land seekers is especially called to the growing **opportunities** offered in this state for market gardeners in the vicinity of the towns.

So rapid has been the growth of **demand** for fresh garden products in the coal and manufacturing towns of late in this state as to increase the sales 413 per cent in the past ten years.

IMMENSE COMING DEMAND FOR FOOD PRODUCTS

A writer treating on the subject of market gardening in West Virginia and the means by which the business has been advanced says "this increase has been made in an effort to produce vegetables and small fruits in the valleys and on the hills, to supply not only the toilers in the factories, but the more than forty thousand miners who toil **beneath** the hills for those dependent upon them. No other American state has a better home market for its vegetables—garden products—than West Virginia."

As has been shown under the head of topography, the soils of our **river bottoms,** composed of the disintegration of the rocks, are extremely fertile and especially adapted to the cultivation of garden products. The **West Virginia gardener,** with his home market in the coal fields, and manufacturing centers, all around him, is not confronted with the problem of **transportation and storage** as are those who must ship long distances.

NATURAL ADVANTAGES HERE.

Thus he is not subjected to losses in a glutted market where railroad traffic and commission rates absorb his profit, he receiving small returns for his industry. Neither is he subjected to losses because of the perishable nature of his crops, for he has his **regular** customers, who are largely the consumers as well and they need stated supplies at **regular** intervals. Neither does he have the expense of insurance. It is estimated that he who produces and ships to far-away markets, after **paying freights,** drayage, insurance and commissions, scarcely receives **forty per cent** of the price which the consumer pays for his vegetables. **Not so** with the West Virginia gardener who sells to the local markets around him, directly to the consumer or retailer, and thus receives the seventy-five to one hundred per cent of the price of his products. Not in thirty years to come will our gardening industry be able to supply existing and ever increasing demands for their products in the home markets of the coal fields, and other centers of industry within the state. And when a surplus is created, the great market centers of Pittsburg and other cities lie within a few hours of their doors.

As home seekers and investors in land carefully investigate they will find superior opportunities for getting support for themselves in West Virginia, while rapid increasing population must result in greatly advancing values of land.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude.—Highest in the state, Spruce Knob in Pendleton County, 4,780 feet.

Climate.—The average annual temperature is 56.4. At Morgantown, Monongalia County, in the extreme northeastern part of the state, the average January temperature is 35 above zero. July, 74. Extremes are, warmest, 97; coldest, 25 below. Yearly rainfall, 46.9 inches. Remarkably healthful climate. Many people having come here for the springs and highland air after recuperation become permanent settlers.

Dimensions.—Extreme length north to south, 225 miles; width, east to west, 200 miles. Area, 24,780 square miles.

History.—Counties of northwestern Virginia rejected the ordinance of secession passed by Virginia April 17, 1861, at Richmond, and delegates from counties now comprising state of West Virginia met in Wheeling June 11, 1861, and organized a new state government. Constitutional convention met in Wheeling November 24. Constitution ratified by the people May 3, 1862. Consent of Virginia legislature given for forming a new state May 13. West Virginia admitted to the Union June 20, 1863. Wheeling made first seat of government and lastly Charleston became the capital of the state.

Valuations, 1906: Real estate, $475,080,584; personal property, $400,000,000. Tax rate on each $1,000 is 85 cents. No bonded debt of the state.

Productions, 1905. — **Agricultural:** Oats, 1,980,586 bushels; corn, 22,813,122 bushels; wheat, 4,373,080 bushels.

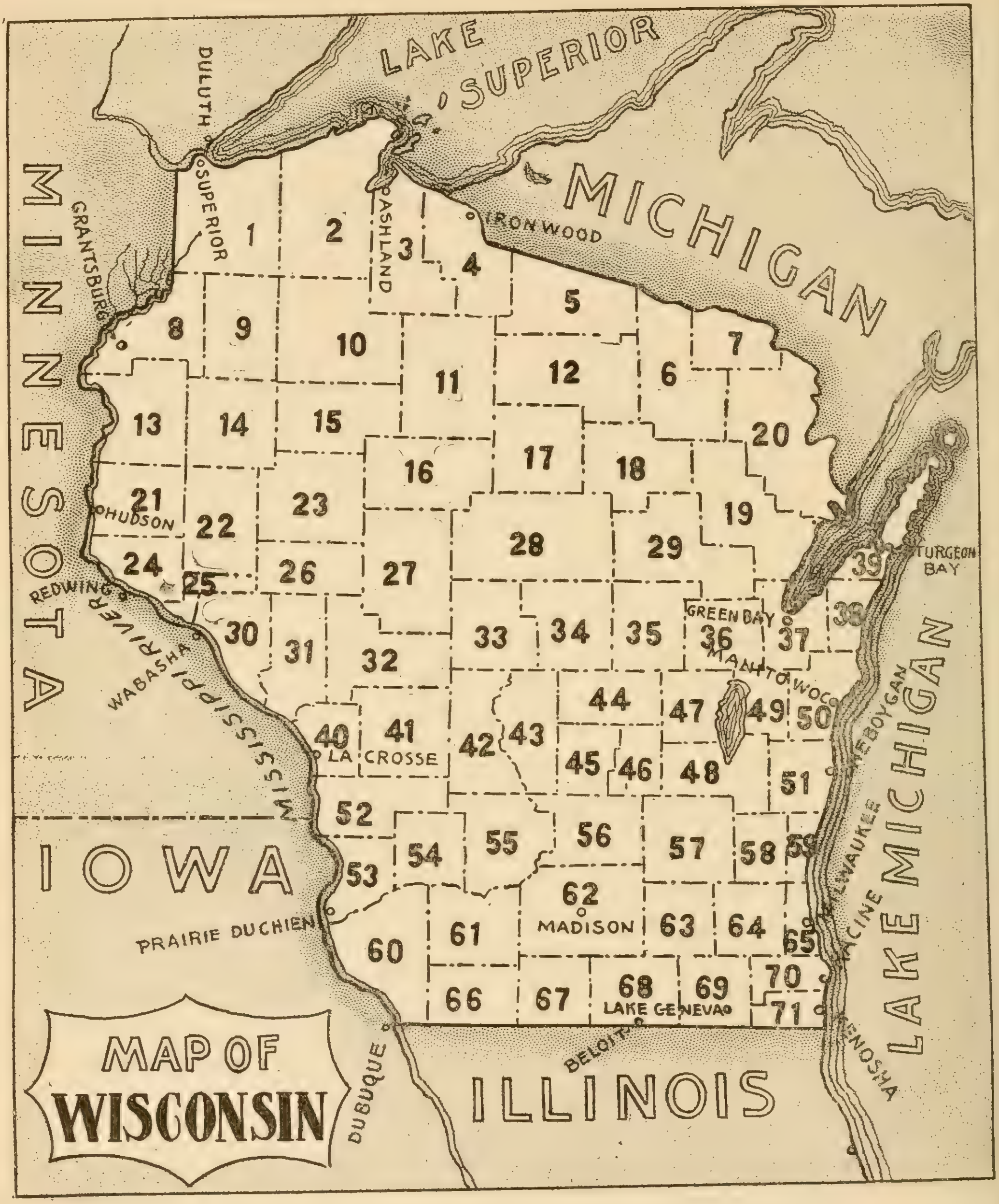
Manufactures: Capital employed, $86,620,823; wage earners, 43,758; wages paid, $21,153,042; value of products, $99,040,676.

Minerals: Value of products—Coal, $32,341,790; clay products, $2,018,795; coke, $6,548,205; iron, pig, estimated, $5,250,000; natural gas, $10,075,804; petroleum, $16,132,631; stone, $842,627; lime, $255,337; mineral waters, $50,063.

The raw material for the manufacture of every description of product is here in such abundance as to build up the **factory,** and all employes in the factories must be fed.

STATE AND THE 71 COUNTIES OF WISCONSIN

With Their Boundaries



LOCATION AND 1910 POPULATION OF WISCONSIN COUNTIES.

Loca.	*County*	*Pop.*	*Loca.*	*County*	*Pop.*	*Loca.*	*County*	*Pop.*	*Loca.*	*County*	*Pop.*
1	Douglas	47,422	6	Forest	6,782	11	Price	13,795	16	Taylor	13,641
2	Bayfield	15,987	7	Florence	3,381	12	Oneida	11,433	17	Lincoln	19,064
3	Ashland	21,965	8	Burnett	9,026	13	Polk	21,367	18	Langlade	.....
4	Iron	8,306	9	Washburn	3,196	14	Barron	29,114	19	Oconto	25,657
5	Vilas	6,019	10	Sawyer	6,227	15	Busk	11,160	20	Marinette	33,812

Location and 1910 Population of Wisconsin Counties—Continued

Loca.	County	Pop.
21	St. Croix	25,910
22	Dunn	25,260
23	Chippewa	32,103
24	Pierce	22,079
25	*Pepin	......
26	Eau Claire	32,721
27	Clark	30,074
28	Marathon	55,054
29	Shawano	31,884
30	Buffalo	16,005
31	Trempealeau	22,928
32	Jackson	17,075
33	Wood	30,583
34	Portage	30,945
35	Waupaca	32,782
36	Outogamie	49,102
37	Brown	54,098
38	Kewaunee	16,784
39	Door	11,711
40	La Crosse	43,996
41	Monroe	28,881
42	Juneau	19,569
43	Adams	8,604
44	Waushara	18,886
45	Marquette	10,741
46	Green Lake	15,491
47	Winnebago	62,116
48	Fond du Lac	51,610
49	Calumet	16,701
50	Manitowoc	44,978
51	Sheboygan	54,888
52	Vernon	28,116
53	Crawford	16,288
54	Richland	18,809
55	Sauk	32,869
56	Columbia	31,129
57	Dodge	47,436
58	Washington	23,784
59	Ozaukee	17,123
60	Grant	39,007
61	Iowa	22,497
62	Dane	77,435
63	Jefferson	34,306
64	Waukesha	37,100
65	Milwaukee	433,187
66	Lafayette	20,075
67	Green	21,641
68	Rock	55,538
69	Walworth	29,614
70	Racine	57,424
71	Kenosha	32,929
	Total	2,333,860

Wisconsin Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
A		
Abbottsford	27	947
Abelman	55	444
Abrams	19	200
Adams Center	43	250
Adell	51	250
Albany	67	669
Albion	62	250
Algoma	38	2,082
Allen Grove	69	321
Allenton	58	250
Allouez	1	820
*Alma	30	1,011
Alma Center	32	417
Almond	34	487
Alois	65	866
Alto	48	220
Altoona	26	824
Amberg	20	431
Amery	13	659
Amherst	34	629
Aniwa	29	274
*Antigo	18	7,196
Appollonia	15	226
*Appleton	36	16,773
Arbor Vitae	5	1,200
Arcadia	31	1,212
Arena	61	354
Argyle	66	603
Arkansaw	25	262
Arkdale	43	220
Armenia	42	801
*Ashland	3	11,594
Athens	28	904
Auburndale	33	297
Augusta	26	1,405
Avoca	61	436
Aztalan	63	250
B		
Babcock	33	520
Badger Mills	23	230
Bagley	60	300
Baileys Harbor	39	250
Baldwin	21	584
*Balsam Lake	13	279
Bancroft	34	226
Bangor	40	692
*Baraboo	55	6,324
Barnes	2	326
Barneveld	61	317
*Barron	14	1,449
Barronett	14	220
Barton	58	562
Bavaria	18	200
Bay City	24	252
Bayfield	2	1,689
Bay Settlement	37	386
Bear Creek	36	426
Beaver Dam	57	6,758
Beetown	60	222
Beldenville	24	250
Belgium	59	228
Bell Center	53	216
Belleville	62	422
Bellevue	37	808
Belmont	66	532
Beloit	68	15,125
Benton	66	652
Berlin	46	4,636
Bigbend	64	200
Big Flats	43	280
Big Suamico	37	336
Birchwood	9	530
Birnamwood	29	678
Blackcreek	36	516
Black Earth	62	479
*Black River Falls	32	1,917
Black Wolf	47	671
Blair	31	486
Blanchardville	66	643
Bloom City	54	230
Bloomer	23	1,204
Bloomington	60	626
Blue River	60	287
Boaz	54	226
Bonduel	29	350
Boscobel	60	1,525
Boyd	23	527
Brandon	48	684
Brantwood	11	336
Bridgeport	53	500
Brillion	49	998
Bristol	71	226
Broadhead	67	1,517
Brokaw	28	458
Brooklyn	67	362
Browntown	67	222
Bruce	15	565
Brule	1	250
Bryant	18	333
Buffalo	39	255
Burlington	70	3,212
Burnett	57	266
Butternut	3	717
C		
Cadott	23	765
Calamine	66	226
Calumetville	48	330
Cambria	56	654
Cambridge	62	507
Cameron	14	562
Campbellsport	48	650
Camp Douglas	42	473
Carrolville	65	362
Carter	6	250
Cascade	51	322
Casco	38	399
Cashton	41	568
Cassville	60	890
Catawba	11	200
Cazenovia	54	392
Cecil	29	351
Cedarburg	59	1,777
Cedar Grove	51	498
Centuria	13	301
Charlesburg	49	362
Chaseburg	52	326
Chat	17	203
Chelsea	16	426
Chetek	14	829
*Chilton	49	1,530
*Chippewa Falls	23	8,893
Clarks Mills	50	226
Clay	32	316
Clayton	13	220
Clear Lake	13	498
Clinton	68	897
Clintonville	35	1,747
Clyman	57	200
Cobb	61	230
Cochrane	30	250
Colby	28	869
Coleman	20	436
Colfax	22	701
Coloma	44	320
Columbus	56	2,523
Commonwealth	7	866
Concord	63	1,236
Conover	5	222
Coon Valley	52	391
Cooperstown	50	226
Corliss	70	525
Cormier	37	1,662
Cottage Grove	62	250
Couderay	10	326
*Crandon	6	1,833
Crivitz	20	226
Cross Plains	62	350
Cuba	60	967
Cudahy	65	3,691
Cumberland	14	1,445
Curtiss	27	332
D		
Dale	36	426
Dallas	14	342
Dane	62	296
Darien	69	389
*Darlington	66	1,808
Dayton	67	250
Deerfield	62	533
Deer Park	21	326
De Forest	62	431
Delafield	64	261
Delavan	69	2,450
Delton	55	226
Denmark	37	250
De Pere	37	4,477
De Pere Station	37	4,292
De Soto	52	331
Dexterville	33	354
Diamond Bluff	24	222
Dickeyville	60	250
*Dodgeville	61	1,791
Donaldson	5	366
Dorchester	27	476
Dousman	64	250
Downing	22	319
Downsville	22	286
Doylestown	56	259
Drummons	2	522
Duckcreek	37	1,606
Dueholm	13	226
Dunbar	20	526
*Durand	25	1,503
Dyckesville	38	206
E		
Eagle	64	339
*Eagle River	5	1,454
Eastman	53	223
East Troy	69	673
*Eau Claire	26	18,310
Eden	48	250
Edgar	28	746
Edgerton	68	2,513
Eland	29	368
Elcho	18	520
Elderon	28	226
Eleva	31	319
Elkhart Lake	51	499
*Elkhorn	69	1,707
Elk Mound	22	302
*Ellsworth	24	1,005
Elmwood	24	585
Elroy	42	1,729
Elton	18	492
Embarrass	35	283
Emmerton	23	462
Ephraim	39	720
Esdaile	24	302
Ettrick	31	362
Eureka	47	362
Evansville	68	2,061
F		
Fairchild	26	678
Fair Oaks	62	891
Fall Creek	26	523
Fall River	56	360
Fennimore	60	1,159
Fenwood	28	220
Ferryville	53	280
Fifield	11	326
Fish Creek	39	200
*Florence	7	1,870
*Fond du Lac	48	13,797
Footville	68	392
Forest Junction	49	250
Forestville	39	250
Fort Atkinson	63	3,877
Fosterville	5	326
Fountain City	30	1,031
Fox Lake Junction	57	851
Frederic	13	511
Fredonia	59	750
Freemont	35	305
*Friendship	43	276
G		
Galesville	31	973
Gays Mills	53	557
Genesee	64	250
Genoa	52	275
Genoa Junction	69	709
Germantown	58	205
Gile	4	451
Gilett	19	610
Gilmanton	30	250
Glenbeulah	51	562
Glen Flora	15	520
Glenrock	44	277
Glenwood City	21	954
Glidden	3	606
Gordon	1	366
Gotham	54	350
Grafton	59	848
*Grand Rapids	33	6,521
Grandview	2	426
Granton	27	250
*Grantsburg	8	721
Gratiot	66	368
*Green Bay	37	25,236
*Green Lake	46	563
Greenleaf	37	226
Greenstreet	50	326
Greenwood	27	665
Gresham	29	305
H		
Hackley	5	526
Hales Corners	65	200
Hamburg	28	350
Hammond	21	408
Hancock	44	510
Hartford	58	2,982
Hartland	64	728
Hatley	28	330
Haugen	14	275
Hawkins	15	460

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Cities and Villages of Wisconsin with 1910 Populations

Towns	*Loca.*	*Pop.*
Hawthorne	1	350
Hayton	49	230
*Hayward	10	3,741
Hazel Green	60	621
Hazelhurst	12	375
Heineman	17	230
Helenville	63	350
Hersy	21	260
High Bridge	3	250
Highland	61	1,096
Hika	50	275
Hilbert	49	572
Hiles	6	526
Hillsboro	52	804
Hines	1	526
Hingham	51	326
Hixton	32	290
Holcombe	23	326
Hollandale	61	265
Holmen	40	300
Honey Creek	69	300
Horicon	57	1,881
Hortonville	36	863
Houlton	21	466
*Hudson	21	2,810
Humbird	27	500
*Hurley	4	2,522
Hustisford	57	615
I		
Iduna	31	630
Independence	31	664
Ingram	15	360
Iola	35	850
Iron Belt	4	1,000
Iron Mountain	57	200
Iron Ridge	57	250
Iron River	2	1,266
Ironton	55	250
Itasca	1	326
J		
Jacksonport	39	226
*Janesville	68	13,894
*Jefferson	63	2,582
Johnsburg	48	252
Johnson Creek	63	425
Johnstown Cen.	68	220
Juda	67	291
Junction	34	262
*Juneau	57	603
K		
Kansasville	70	366
Kaukauna	36	4,717
Kelley	28	200
Kellnersville	50	435
Kendall	41	477
*Kenosha	71	21,371
Kewaskum	58	625
*Kewaunee	38	1,839
Kiel	50	1,241
Kilbourn	56	1,170
Kimberly	36	200
Kingston	46	204
Knapp	22	413
L		
Lac du Flambeau	5	226
*La Crosse	40	30,417
*Ladysmith	15	2,352
Lake Geneva	69	3,079
Lakemills	63	1,672
Lake Nebagamon	1	483
*Lancaster	60	2,329
Laney	29	1,814
Lannon	64	450
Laona	6	720
Larrabee	50	362
La Rue	55	250
Lavalle	55	421
Leadmine	66	226
Lena	19	350
Levis	32	200
Limeridge	55	250
Linden	61	580
Little Chute	36	354
Livingston	60	662
Lodi	56	1,044
Loganville	55	260
Lohrville	44	301
Lomira	57	529
Lone Rock	54	497
Lostcreek	24	1,066
Louisburg	60	228
Lowell	57	318
Loyal	27	677
Luck	13	383
Luxembourg	38	402
Lyndon Station	42	275
Lynxville	53	274
Lyons	69	426
M		
Macfarland	62	420
Madison (capital)	62	25,531
Maiden Rock	24	337
Manawa	35	820
Manchester	46	230
Manico	12	650
*Manitowoc	50	13,027
Maplewood	39	260
Marathon	28	656
Marblehead	48	275
Marengo	3	250
*Marinette	20	14,610
Marion	35	798
Markesan	46	892
Marquette	46	313
Marshall	62	459
Marshfield	33	5,783
Martintown	67	200
Mason	2	750
Mattoon	29	868
*Mauston	42	1,701
Mayville	57	2,282
Mazomanie	62	917
*Medford	16	1,843
Medina	36	226
Mellen	3	2,833
Melrose	32	250
Menasha	47	6,081
Menomonee Falls	64	919
*Menomonee	22	5,036
Mercer	4	226
*Merrill	17	8,689
Merrillan	32	625
Merrimack	55	312
Middleton	62	679
Mifflin	61	350
Milladore	33	325
Milltown	13	250
Milton	68	833
Milton Junction	68	926
*Milwaukee	65	373,857
Mineral Point	61	2,925
Minocqua	12	470
Minong	9	200
Mishicot	50	450
Mindovi	30	1,325
*Monroe	67	4,410
*Montello	45	1,104
Montfort Junc.	61	558
Monticello	67	671
Montreal	4	562
Morrisonville	62	230
Mosinee	28	482
Mount Calvary	48	350
Mount Hope	60	302
Mount Horeb	62	1,048
Mount Sterling	53	303
Mukwanago	64	615
Muscoda	60	798
N		
Nashotah	64	226
Nashville	6	233
National Home	65	2,100
Necedah	42	1,054
Neenah	47	5,734
*Neillsville	27	1,957
Nekimi	47	908
Nekoosa	33	1,570
Nekoosa Junc.	33	285
Nelson	30	285
Neosho	57	304
Neshkoro	45	308
New Auburn	23	364
New Berlin	64	380
Newburg	58	482
New Cassel	48	326
New Digging	66	350
New Glarus	67	708
New Holstein	49	839
New Lisbon	42	1,074
New London	35	3,383
New Munster	71	200
New Richmond	21	1,938
Niles	50	226
Norrie	28	226
North Crandon	6	508
N. Fond du Lac	48	1,960
N. Freedom	55	647
N. La Crosse	40	7,096
N. Milwaukee	65	1,860
Northport	35	420
North Prairie	64	266
Norwalk	41	502
Nye	57	226
O		
Oakfield	48	522
Oakland	63	1,287
Oconomowoc	64	3,054
*Oconto	19	5,629
Oconto Falls	19	1,427
Odanah	3	2,109
Ogdensburg	35	308
Ogema	11	250
Omro	47	1,285
Onalaska	40	1,146
Oneida	36	2,280
Ontario	52	383
Oostburg	51	380
Orfordville	68	449
Osceola	13	634
*Oshkosh	47	33,062
Osseo	31	690
Otjen	65	366
Ottawa	64	1,500
Owen	27	745
Oxford	45	250
P		
Packwaukee	45	250
Palmyra	63	649
Pardeeville	56	987
Park Falls	11	1,972
Paynesville	65	522
Pelican Lake	12	220
Pembine	20	390
Pence	4	409
Pensaukee	19	250
Pepin	25	397
Perkinstown	16	306
Peshtigo	20	1,975
Pewaukee	64	749
*Phillips	11	1,948
Phlox	18	250
Pine Grove	37	201
Pine River	44	201
Pine River	17	1,213
Pittsville	33	450
Plainfield	44	723
Plainville	43	901
Platteville	60	4,452
Pleasant Prairie	71	301
Plover	34	319
Plum City	24	305
Plymouth	51	3,094
Polonia	34	201
*Portage	56	5,441
Port Edwards	33	750
Portland	57	250
*Pt. Washingt'n	59	3,792
Port Wing	2	251
Potosi	60	464
Pound	20	301
Poygan	47	662
Poynette	56	656
*Prairie du Chien	53	3,149
Prairie du Sac	55	702
Prairie Farm	14	368
Prentice	11	606
Prescott	24	936
Princeton	46	1,269
Pulaski	29	436
R		
*Racine	70	38,002
Randolph	57	937
Random Lake	51	408
Readstown	52	515
Reedsburg	55	2,615
Reeseville	57	352
Reesevile	57	352
Redgranite	44	1,521
Rewey	61	329
*Rhinelander	12	5,637
Rib Lake	16	1,018
Rice Lake	14	3,968
*Richland Centre	54	2,652
Richmond Falls	69	211
Richwood	57	212
Ridgeway	61	437
Rio	56	704
Ripon	48	3,739
River Falls	24	1,991
Robbins	12	201
Roberts	21	203
Rochester	70	284
Rockdale	62	202
Rockmont	1	201
Reme	63	225
Rosecrans	50	201
Rosendale	48	304
Rosholt	34	383
Royalton	35	202
Rudolph	33	203
S		
Sagole	36	201
St. Anna	51	201
St. Cloud	48	309
St. Croix	13	569
St. Francis	65	1,502
St. Lawrence	58	203
St. Nazianz	50	503
Salem	71	303
Sauk City	55	867
Saukville	59	200
Sawyer	39	301
Scandinavia	35	355
Schlesingerville	58	538
Schofield	28	889
Scott	51	202
Seneca	53	254
Seymour	36	1,109
Shanagolden	3	301
Sharon	69	879
*Shawano	29	2,923
*Sheboygan	51	26,398
Sheboygan Falls	51	1,633
*Shell Lake	9	902
Sherry	33	252
Shiocton	36	536
Shopiere	68	301
Shullsburg	66	1,063
Silverlake	71	301
Sinsinawa	60	701
Soldiers Grove	53	667
Solon Springs	1	253
Somers	71	251
Somerset Sta.	21	351
Soperton	6	403
S. Germantown	58	205
S. Milwaukee	65	6,092
South Range	1	351
South Wayne	66	301
*Sparta	41	3,973
Spencer	28	362
Spirit	11	801
Spooner	9	1,453
Springfield	69	251
Spring Green	55	732
Springlake	44	203
Spring Meadow	65	2,104
Spring Valley	24	972
Stanley	23	2,675
Starlake	5	201
Star Prairie	21	253
State Hospital	47	1,111
Stetsonville	16	201
Steuben	53	237
*Stevens Point	34	8,692
Stiles	19	466
Stinnett	9	301
Stitzer	60	275
Stockbridge	49	328
Stockholm	25	204
Stoddard	52	343
Stoughton	62	4,761
Stratford	28	763
Strum	31	253
*Sturgeon Bay	39	4,262
Suamico	37	301
Sullivan	63	301
Sun Prairie	62	1,119
*Superior	1	40,384
Suring	19	211
Sussex	64	211
Symco	35	313
T		
Taylor	32	254
Theresa	57	345
Thiensville	59	254
Thorp	27	741
Three Lakes	12	301
Tigerton	29	728
Tisch Mills	50	225
Tomah	41	3,419
Tomahawk	17	2,907
Tony	15	201
Trego	9	201
Trempealeau	31	535
Tripoli	12	253
Truesdell	71	1,680
Turtle Lake	14	442
Two Rivers	50	4,851
U		
Union Center	42	301
Union Grove	70	616
Unity	28	363
Utica	62	855

Wisconsin Cities and Villages with 1910 Populations

Towns	Loca.	Pop.
V		
Valders	50	222
Valley Junction	41	201
Vandyne	48	218
Verona	62	355
Vesper	33	261
Viola	54	671
*Viroqua	52	2,059
W		
Wabeno	6	503
Waldo	51	252
Walworth	69	755
Warrens	41	1,408
*Washburn	2	3,832
Washington Harbor	39	738
Waterford	70	581
Waterloo	63	1,222
Watertown	63	8,829
Waukau	47	301
*Waukesha	64	8,744
Waunakee	62	551
*Waupaca	35	2,739
Waupun	48	3,362
*Wausau	28	16,563
Wausaukee	20	2,066
*Wautoma	44	964
Wauwatosa	65	3,346
Wauzeka	53	476
Wayside	37	302
Weiskisit	18	253
Welcome	36	341
West Allis	65	6,645
*West Bend	58	2,462
Westboro	16	704
Westby	52	902
West De Pere	37	4,292
Westfield	45	729
W. Milwaukee	65	1,458
Weston	22	327
West Salem	40	842
West Sweden	13	401
Weyauwega	35	967
Weyerhaeuser	15	371
Whitefish Bay	65	542
*Whitehall	31	703
Whitewater	69	3,224
Wild Rose	44	551
Williams Bay	69	553
Wilmot	71	251
Wilson	21	505
Wilton	41	510
Winchester	47	968
Windsor	62	203
Winnebago	47	1,104
Winneconne	47	943
Withee	27	443
Wittenberg	29	1,091
Wonewoc	42	789
Woodford	66	200
Woodville	21	320
Wrightstown	37	525
Wyocena	56	425

WISCONSIN

INFORMATION CONCERNING NORTHERN WISCONSIN LANDS

In reply to our questions about Wisconsin cut-over timber lands we receive the following:

College of Agriculture, Madison, Wis.

The price of "cut-over" lands, i. e., those from which the valuable timber has been removed, in Northern Wisconsin, ranges from $5.00 to $20.00 per acre; for lands carrying valuable timber the prices range from $10.00 to $40.00.

Kentucky blue grass, red top and timothy flourish in Northern Wisconsin in great profusion. Blue grass soon forms a dense sod and timothy, on fertile tracts, grows luxuriantly, yielding crops for many years without reseeding. Red, alsike and white clover flourish, the two former usually giving two cuttings a year. Clover does not so often winter kill as in the southern part of the state because the ground does not thaw out in winter and is usually covered with snow.

Indian corn can be successfully grown over a large part of the north on the warmer sandy-loam soils. As the country becomes more settled considerable crops of corn will be grown. Oats are at home in Northern Wisconsin and yield large crops of heavy grain. Barley grows well there. Some wheat is grown, but the settler should not rely upon that crop. Rye is largely grown and the field or Canada pea flourishes to a surprising degree. Already there are scores of canning factories in the state canning green peas. The yield of ripe peas is from 15 to 30 bushels or more per acre. They are extremely valuable for feeding stock, especially hogs for producing choice bacon and hams.

Root crops of all kinds flourish. Potato growing is already an enormous industry in the north central portion of the state, and where the soils are not too heavy, this is one of the most profitable crops of the northern farmer. Cabbages, rutabagas, beets, etc., yield large returns of excellent quality. The sugar beet grows well in the north and on suitable soils carries a very heavy percentage of sugar.

Dairying is destined to become the great industry of our new north. The abundant grasses and clovers, the pure, cool waters, the temperate summer climate, all combine to this end. The writer predicts that Northern Wisconsin will become the greatest cheese region in all America. Sheep husbandry is also profitable. Hogs do well and can be fed upon peas, clover and other grains grown by the farmer.

As to healthfulness, it may be said that there are no diseases peculiar to Northern Wisconsin. The water is pure and the air invigorating. Malaria is unknown. There are no blizzards in the true sense of that word. There is abundance of fuel for the cutting. Never is there a failure of all crops in any one season. Under the worst of possible conditions one is sure of abundance of food, fuel and water—items not always available to pioneer settlers in many parts of the west

Every land seeker coming to Northern Wisconsin should know that this vast district possesses all kinds of soil—good, medium and poor. There are many inferior tracts of land in our new north which at this time should be severely let alone by the land seeker. In some places there are gravelly ridges with a thin, light soil which burns out in dry weather. In other places there are swamps too deep and miry to be successfully drained. Again there are districts where drift bowlders cover the ground so thickly that, although the soil itself is good, one cannot afford to make a farm at the present time. Finally there are regions with a coarse-sand subsoil. On some of these sandy lands there is only a light vegetable mold which will give fair crops for two or three years and then leave fields in which the loose sand will be blown into heaps by the wind and profitable cultivation become an impossibility. Again there are sandy regions covered with a peat or moorland formation. Some of these soils are of doubtful agricultural value. In some of the sandy districts the sand is of fine particles and suited to profitable agriculture. The land seeker should avoid all lands of questionable character, since there are numerous tracts of good land available at reasonable prices. One should not take poor lands because they can be bought for a few dollars less per acre than the tracts with a good soil. There are good lands and poor lands in each and every northern county.

The undersigned cannot undertake to inform persons who write him as to the merits of particular tracts. Each separate tract must be seen and studied to gain a correct idea of its value.

The only way to proceed advantageously in securing a home in our new north is to visit one or more seemingly desirable districts. It does not matter so much which county one goes into as it does that a wise selection be made when one has reached some given point. Railroads cross every portion of the state and the highways are generally laid out. Settlers abound everywhere. The land seeker should carefully examine the growing crops in the region visited and from them make up his mind as to the possibilities of other tracts in the same locality. It should not be forgotten that soils differ sometimes on two adjoining farms and sometimes land not worth a dollar an acre lies only a short distance from that which when improved will be worth $50 or even more per acre. All such facts come out plainly when one studies northern Wisconsin for himself.

The writer believes that no region in the United States today offers more favorable opportunities for persons with limited means to surely and successfully secure homes and ultimately good farms than Northern Wisconsin. At the same time some landseekers are making serious mistakes by going about this matter in an unbusinesslike manner, not giving to an important vital matter the thought and care it merits.

Government land offices are located at Wausau, Eau Claire and Ashland, Wisconsin. Government lands still unsold are generally of low agricultural value.

Concerning State lands address State Land Commissioner, State Capitol, Madison, Wis.

Wisconsin has no Board of Immigration.

W. A. HENRY, Dean and Director.

CONDENSED IMPORTANT FACTS RELATING TO THE STATE.

Altitude.—Rib Hill, in Marathon Co., 1,940 feet.

Climate.—Winters long and severe, yet healthful. The average annual temperature at Green Bay is 43.65. Snow, falling usually before heavy freezing, and continuing through the winter, protects the roots of plants from frost and hastens vegetation in the spring. Average January temperature at La Crosse, 15 above zero; July, 73; warmest, 104; coldest, 43 below zero; yearly rainfall, 30.7. At Milwaukee, January average, 19 above; July, 69; warmest, 100; coldest, 25 below; yearly rainfall, 32.1.

Dimensions.—Extreme length of state, north and south, 300 miles. Width, east to west, 290 miles. Area of state, 56,040 square miles.

History.—Many evidences of this region having been occupied by the Mound Builders. Visited by Jean Nicolet, a Frenchman, in 1634; French fur traders built a small stockade near the present town of Ashland, 1661; Jesuit mission founded at La Pointe, 1665; Green Bay, 1669. Trading post established at Milwaukee, 1785; Milwaukee founded, 1835;

STATE AND THE 15 COUNTIES OF WYOMING

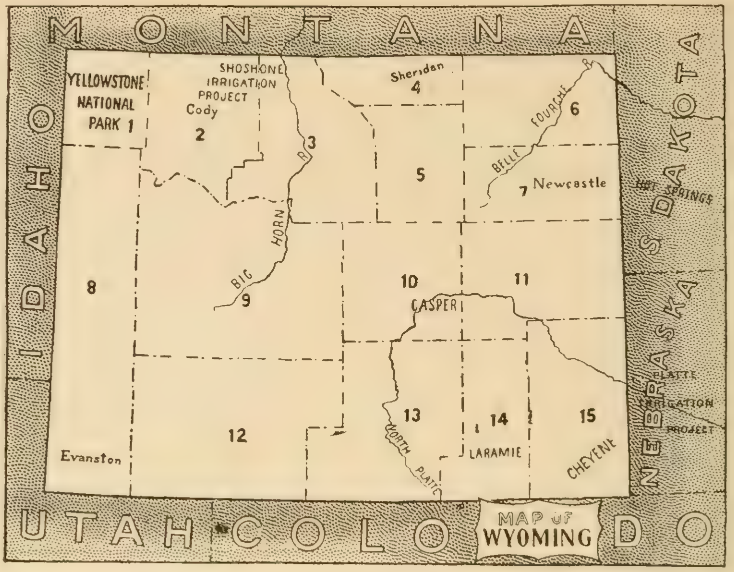
With Their Boundaries

Location and Population of WYOMING COUNTIES

Location	COUNTIES	Pop. 1910
1	National Park	519
2	Park	4,909
3	Big Horn	8,886
4	Sheridan	16,324
5	Johnson	3,453
6	Crook	6,492
7	Weston	4,960
8	Uinta	16,982
9	Fremont	11,822
10	Natrona	1,766
11	Converse	6,294
12	Sweet Water	11,575
13	Carbon	11,282
14	Albany	11,574
15	Laramie	26,127
	Total	145,956

WYOMING CITIES AND VILLAGES WITH 1910 POPULATIONS.

Towns	*Loca.*	*Pop.*
A		
Afton	8	570
Almy	8	450
B		
*Basin	3	763
*Buffalo	5	1,368
Burlington	3	465
C		
Cambria	7	909
Carneyville	4	406
*Casper	10	2,639
Cheyenne (capital)	15	11,320
*Cody	2	1,132
Cowley	3	574
Cumberland	8	200
D		
Dayton	4	313
Diamondville	8	696
Dietz	4	1,209
*Douglas	11	2,246
E		
Elkol	8	250
Encampment	13	421
Evanston	8	2,583
F		
Fairview	8	350
Fort Mackenzie	4	362
Fort Russell	15	1,066



WYOMING CITIES AND VILLAGES WITH 1910 POPULATIONS.

Towns	*Loca.*	*Pop.*
Fort Washakie	9	328
Frontier	8	1,520
G		
Gillette	6	448
Glencoe	8	590
Glenrock	11	426
*Green River	12	1,313
Greybull	3	258
Grover	8	250
Guernsey	15	274
Gunn	12	220
H		
Hanna	13	2,066
Hartville	13	235
Hudson	9	319
Hyattville	3	220
K		
Kemmerer	8	843
Keystone	14	309
Kinnear	9	620
Kooi	4	250
L		
*Lander	9	1,812
*Laramie	14	8,237
Lonetree	8	200
Lovell	3	726
Lusk	11	419
M		
Manville	11	250
Meeteetse	2	207
Monarch	4	375
N		
*Newcastle	7	975
O		
Oakley	8	590
Otto	3	202
P		
Pinebluff	15	246
Q		
Quarry Spur	8	562
R		
*Rawlins	13	4,256
Riverton	9	483
Rock Springs	12	5,778
S		
Saratoga	13	557
Shell	3	226
*Sheridan	4	8,408
Shoshoni	9	604
Sublet	8	347
*Sundance	6	281
Sunrise	15	226
Superior	12	602
Sweetwater	12	306
T		
Thermopolis	9	1,524
U		
Upton	7	244
W		
Wheatland	15	796
Winchester	3	226
Wind River	9	226
Worland	3	265

WYOMING.

ONE OF THE RICHEST OF THE UNITED STATES IN NATURAL RESOURCES.

As the reader will observe by examination of dimensions, this state is more than twice the size of Pennsylvania, which is of itself a large state.

What the ultimate outcome of Wyoming will be, when its resources are fully developed, it is impossible to foresee. In the first place it is a very young state. It was **admitted to the Union** no longer ago than 1890. It is so young yet in being settled that at the census of 1900 there was less than one person to the square mile, while Pennsylvania had 140 persons to the square mile, being over 200 years older than Wyoming.

We speak of Pennsylvania in comparison because Wyoming has several of the natural resources of Pennsylvania, though vastly greater. Thus the coal area of Pennsylvania covers 470 square miles and had an output of coal in 1906 valued at $255,269,507. If Pennsylvania coal is worth over $255,000,000, with 470 square miles of coal area, what will the coal output of Wyoming be when the 20,000 square miles of coal area is fully developed?

CLIMATE COMPARED WITH PENNSYLVANIA.

Climate has very much to do with the growth and ultimate development of a region. In speaking of the two states, compare the temperature of the leading cities. Thus, the average January temperature of Pittsburg is 30 **above zero**, Cheyenne is 25; August,

Explanation: Index to Towns. First Column, Names of Towns; Second Column, Number the Same as Number of the County Where Town is Located; Third Column, Population of 1910. Loca. Means Location. Pop. Means Population. Star in Front of Name Indicates County Seat.

Wyoming a State Rich in Minerals and Natural Resources

at Pittsburg, is 74, at Cheyenne it is 67; the warmest at Pittsburg is 103, the warmest at Cheyenne is 100. The coldest at Pittsburg is 20 below zero, while the coldest at Cheyenne is 38 below. In Pennsylvania the annual average temperature is 53.9, while in Wyoming it is 44.9. But the average elevation of 6,000 feet **above sea level** makes an air so dry as to relieve cold weather of the disagreeable tinge of cold, which is experienced in a moist atmosphere.

The climate here is similar to the **mountain region of Italy** and is not severe in winter. There are few cloudy days. Winds sometimes prevail during the spring and fall, but cyclones and tornadoes are unknown. Snowstorms are usually followed by Chinook winds from the Pacific ocean which, with their warmth, uncover the pastures, so that live stock get the benefit of the grasses cured by the summer sun, and as the **cured native grasses** retain their nutrition, it enables the stockman to support his stock upon the open range with little, and in the case of sheep raising, **no additional** food. But few climates are more bracing, healthful or **pleasant** than the climate of the mountain region of the western states. The almost **constant sunlight** is not only pleasant, but beneficial from a sanitary standpoint, and it is a well recognized fact in the medical profession, that certain diseases, notably pulmonary afflictions, are much benefited by **change** from the states of lower altitudes to Wyoming or adjacent states.

Gold, copper and coal mining, petroleum production and raising live stock are the most important business interests of the State up to the present time.

RICH IN NATURAL RESOURCES.

The State is destined in the very near future to become the richest, in its diversified natural resources, of any State in the Union. The **minerals are here** in quantity. There are **vast coal** fields as yet unopened and subject to entry under the United States statutes. There is an enormous area of **oil land,** most of which is still open for location. There are **mountains** of iron ore. There is probably more **copper** than in any other state—veins from four to twenty-five feet wide, running from 15 per cent to 70 per cent, and many rich gold-bearing lodes.

Hot springs abound, which not only equal but **surpass** the famous Carlsbad Springs of Europe. The analysis of the waters and the results of their use have demonstrated this to be true.

BETTER TRANSPORTATION NECESSARY.

The **only thing** necessary to make the state all and **more** than is claimed for it is more **transportation** facilities—railroads operated in the interest of local development and not solely for trans-continental traffic—more capital invested on a business basis, and more **men of brains,** push and honest purpose. To **all such** Wyoming extends a hearty greeting and a co-operative hand.

In Albany County there is over $2,000,000 invested in live stock and just to the south end of the city of Laramie are the Acme Cement Company's works, which owns a **thousand acres** of plaster land which has a deposit of **natural plaster** from six to eight feet in thickness. The output is about ten cars per day.

Large shops are here used for the purpose of **preserving** railroad ties by a process which is said to prolong their life two and a half times.

A large quantity of **limestone** is shipped to the beet sugar plants and smelters of Colorado from quarries just to the **east** of Laramie. This limestone is the **purest** discovered in the United States and is practically inexhaustible. It was used some years ago in the manufacture of glass. All the other ingredients for the **manufacture of glass** of a superior quality are found at Laramie and it is within the realm of reason to predict that this industry will soon be in a flourishing condition at this point. At the State Fishery, located at this point, more than a million of small fry are hatched annually and distributed among the streams of the state.

WHY CALLED BIG HORN.

Big Horn County is named from the Big Horn or Rocky Mountain sheep, which abound in the Big Horn Mountains, on the east side of the Big Horn Basin. It is anticipated that at an early day, among other enterprises, a beet sugar factory will be established in this county, **400,000 acres** of land being soon placed under irrigating ditches. All the roots, vegetables, such as potatoes, carrots, rutabagas and foods of all kinds thrive excellently well up to **6,500 feet** elevation. It is not uncommon for beets to attain a weight of ten and fifteen pounds and be solid to the core.

HOT SPRINGS HERE.

The Big Horn hot springs in this county are certain to be **widely celebrated.** From the main spring a stream seven feet wide and two feet deep, with a temperature of 135 degrees F., flows continually. It possesses strong curative properties.

Carbon County is named from the **immense coal deposits** which underlie the county. The Saratoga hot spring waters in this county, having a temperature of 135 degrees Fahrenheit, have strong medicinal qualities beneficial to the stomach and kidneys, and when bottled is a pure and pleasant water to drink. These springs are in an **ideal place** for a summer resort and sanitarium. The streams here abound in trout and the region is waiting the coming of parties who will utilize the locality for **resort** purposes.

GREAT SIZE OF VEGETABLES.

Converse County, named after a prominent cattleman of that name, has a record for producing on the irrigated lands here **several hundred** bushels of potatoes to the acre; pumpkin and squash which reach a weight of **100 and 160** pounds. Coal, iron and copper are among the principal mineral products of this county. Large **oil fields** are in this county and **gas** has been struck here in commercial quantities.

THE MINERAL PRODUCTS.

Placer mining is going forward in Crook County. Gold, silver, tin, copper, lead, manganese and bituminous coal are found here also in considerable quantity.

Three improved flouring mills are in Fremont County. Coal is here in great quantity; also a number of **flowing oil wells.**

In Johnson County there are 30,000 acres under irrigation and 200,000 acres are susceptible of irrigation and only await the advent of the industrious settler who can here obtain a **good home** cheap. Pasture lands **sell for $2;** irrigated from $15 to $25. Gold, silver, copper and oil **are here** in large quantities, but are not worked yet from lack of transportation facilities. **Water power** is also here for a hundred factories.

Cheyenne, the county seat of Laramie County, has a population of 14,000; two daily newspapers; the capitol building, costing $300,000; postoffice, $350,000; Opera House, $80,000; Elks' Home, $30,000; Masonic Temple, $50,000; convent school, $50,000.

In the northern half of Laramie County the Wyoming Development Company has reclaimed a **hundred thousand acres** of arid land for the Wheatland Colony. Parties wishing to study large and superior systems of irrigation and the beneficial results should come into Wyoming. **Independent** of the general government, these improvements have been going forward in this region for years. With the assistance of the government every valley and broad plateau, located lower than a stream, **will be given** the benefit of water supply in regular quantities some day in the future.

That newspaper men, who are abreast of the times, great readers and know what is going on, are alive to the future possibilities of this state is shown in the many newspapers of the state established in **small towns** in the full belief that the towns will be many times larger. This is seen in the little town of Wheatland, which has a population of **800 and two newspapers.** But these papers are on hand to get the advantage and be on the ground floor when the town numbers a population of 8,000.

To show how a **little village** of 800 people in Wyoming will push right along in business enterprise, look at the directory of Wheatland. Three churches—Methodist, Congregational and Catholic; a library and good library building; a telephone exchange and connections with all towns in Wyoming, Colorado, Utah and Idaho; five general stores; drug store, two livery stables, two hotels, one bank, a harness and saddle manufacturing establishment, two blacksmith and carriage shops, five secret orders, a good hall and modern roller mill with a capacity of 125 barrels a day.

PLENTY OF EMPLOYMENT.

Among the primary reasons for the future growth and prosperity of such a town as this is the fact that there is plenty of employment **for every person** at good pay in the business houses or out in the field helping to harvest the products grown in the sunshine on the irrigated lands.

How Little Villages Start in Wyoming and Become Prominent.

EASY TO GET STARTED HERE.

And then it is so easy to get hold here. Coal is cheap. Wood is abundant and may be had for simply the cutting and hauling. The pure, bracing air **puts life** into the newcomer at once, and he feels just like good, active work. After building up a large wood pile he goes to the lumber mills and buys the material for his house at **$7 and $10** per thousand. Building stone is plenty and bricks are close by.

Located right in the midst of the irrigated lands, where crops are sure and the land owner knows what to depend on, it can readily be seen that this town, like many others in the State, has a good outlook with promise of speedy returns for capital invested.

The agriculturist who is looking for **an ideal farming** country; cattle and sheep producers who are desirous for the most advantageous conditions for stock raising; the business man who is seeking the new town **full of promise**, with the growing surrounding country; and those broken in health who seek a favorable climate, will find **good openings right here** in Wheatland. And we might speak of many other little villages just as approvingly as this. The lands are selling here at $22 and $35 per acre. **Ten years' time** is given with equal annual payments at 6 per cent interest. No payment except the interest has to be made the second year, which gives the settler **an opportunity** to pay for his farm even though his means be limited.

PLENTY OF WATER.

A perpetual water right goes with each piece of land, and the purchaser of a Wheatland farm cannot be deprived of an equal water right with every other land holder any more than he can be deprived of the land itself. The **land and water** go together. When the lands and water have all been sold, the irrigation works will be absolutely under the control of those holding lands in the colony.

CONDENSED IMPORTANT FACTS RELATING TO WYOMING.

Altitude—Highest, Fremont Peak, in Wind River Range, Fremont County, 13,790 feet.

Climate—Temperature varies with elevation. Winters severe in higher altitudes, comparatively mild in the sheltered valleys. Average annual temperature for the state 44°. Average, January, at Fort Washakie, on the Shoshone Reservation in Fremont County, 10 above; July 67; warmest, 100; coldest, 54 below. Average, January, at Cheyenne, 25 above; July, 67. Warmest, 100. Coldest, 38 below. Yearly rainfall, 12.2 inches.

Dimensions—Length, north to south, 275 miles. Width, east to west, 365 miles. Area of the state, 97,890 square miles.

History—Territory partly included in the Louisiana Purchase of 1803. Territory taken from Dakota, Idaho and Utah and organized July 25, 1868. Explored by Fremont about 1842.

FACTS OF INTEREST ABOUT WYOMING.

Yellowstone National Park occupies the northwest corner of the State of Wyoming and strips of the adjacent states—Idaho and Montana. In 1872, by Act of Congress, this portion of the Rocky Mountains was set aside as a national park, "for the benefit and enjoyment of the people."

It is rectangular in shape, fifty-five by sixty-five miles in size—the greater dimension running north and south; it embraces practically three and one-half thousand square miles. Snow-clad mountains within and adjacent to the Park range in elevation from ten to fourteen thousand feet above sea-level; while the Park stage route ascends from 6,700 feet at Yellowstone Station, to an altitude of 8,300 feet in crossing the Continental Divide. Nowhere in the world are there geysers to compare, either in magnitude or number, with those in Yellowstone Park. The terraces and beautiful pools of Mammoth even surpass those in New Zealand. The Grand Canyon of the Yellowstone is unsurpassed in beauty and coloring; and the Great Falls, at its head, is three hundred and sixty feet in height.

The acting superintendent of the park is the commanding officer of Fort Yellowstone, a four-company post. Mounted guards escort the coaches on the tour; and scouts are employed to protect the game.

Hunting is not permitted in the park, but the visitor may ejoy trout fishing in mountain streams and Yellowstone Lake, where it is exceptionally good. The animals have government protection. The rock-formations and deposits are preserved in their natural state.

The road system, under the direct supervision of Government engineers, is one of the best in the country. The cost is defrayed by annual Congressional appropriations, and no pains have been spared to make the grades easy, and the roads so wide that coaches can pass at practically every point. Steel and concrete bridges span the streams, doing away with fords and making accessible to the tourist many sights heretofore inaccessible. The roads are sprinkled and kept constantly in repair.

PARK ANIMALS.

The animals of the Park are objects of peculiar interest. No sound of gun or bark of dog is ever heard, and the animals, though wild, have become so tame that they give only curious notice to tourists as they pass. Deer, elk and bear roam at will throughout Geyserland. The red squirrel and the chipmunk scamper along the roadway, and those furry little bundles, the woodchucks, flatten out on the rocks and take no heed of your passing. It is an everyday sight to see deer and their young by the roadside, and now and then you get a glimpse of an antlered elk, with his family of cows, swimming the streams of the Park. So much has been accomplished by law in robbing man of his terrors to the wild, that all of the animals in the Park, except those that—like the mountain lion and sheep—frequent places inaccessible to travelers, have well nigh lost their fears.

The bears, some of them wrapped in robes that would command a fancy price, come down in the evening from their homes in the hills to feed around the hotels. The after-dinner entertainment they afford to guests is an everyday pleasure.

EDUCATION.

Wyoming was the first state to grant **political rights to men and women**, and it is but natural that the subject of education should receive the most profound attention. The schools of Wyoming are second to none, and in each county of the state every facility is extended to the children, **however isolated** are their homes, to secure an education. Schools are provided where there are even a very small number of pupils, and in all large towns are **good high schools**, which fit the young people for the State University.

The University of Wyoming, located at Laramie, is an admirable institution, which offers splendid courses in literature, science and art, as well as in mining, mechanical and irrigation engineering, agriculture and commerce

Bulletins are issued by the University from time to time on topics of **general interest to farmers** and others, and are sent free upon request to all who will apply for them.

BUFFALO BILL.

Last Appearance as a Showman.

A Richmond, Va., newspaper says:

Richmond, Va., Nov. 1, 1911.—Colonel William F. Cody—"Buffalo Bill" to all the world—retired from public life tonight. His show was packed off to winter quarters and his Indians will return to their tepees in what is left of the red man's land, while "Buffalo Bill" intends to spend his remaining years in the Wyoming Big Horn country, where he helped make American history. So far as public exhibitions are concerned he has chased his last Indian.

During a career which began as a pony express rider, led him through more Indian battles than any other living white man, and included twenty-eight years as a showman, Colonel Cody became known as one of the most picturesque figures of American frontier life.

The sobriquet "Buffalo Bill" he earned in the early 60s, when he contracted to furnish buffalo meat to the laborers building the Kansas Pacific Railroad and in less than eighteen months killed 4,280 bison.

Wyoming, a Wonderfully Interesting Region to Visit

CANALS CONSTRUCTED.

The State Land Board has taken especial and practical interest in furthering the interest of the settlers. The state and national governments afford perfect protection for capital invested and to the settler for title to his land and the perpetuity of his water right. There is no possibility of loss to the individual investors or the settlers. The soil, climate and altitude of Wyoming are especially adapted to the most profitable crops grown by irrigation.

LIST OF IRRIGATION PROJECTS.

The Cody Canal Association, Cody, Wyo.
The Big Horn Basin Colonization Co., Cowley, Wyo.
The Big Horn County Irrigation Co., Basin, Wyo.
Hanover Canal Co., Worland, Wyo.
North Platte Canal and Colonization Co., Wyncotte, Wyo., and James Lake Irrigation Co., Laramie, Wyo. All have practically completed their projects and sold out their lands. There are, however, several companies which are ready for settlers and information in regard to the lands can be secured by writing to the following:
Sahara Ditch Company, Buffalo, Wyo.
Boulder Lake Canal Co., Boulder or Rock Springs, Wyo.
Lovell Irrigation Co., Lovell, Wyo.
Wheatland Industrial Co., Cheyenne or Wheatland, Wyo.
Rock Creek Conservation Co., Rock River, Wyo.
Wyoming Land & Irrigation Co., Marquette Bldg., Chicago.
La Prele Ditch & Reservoir Co., Douglas, Wyo.
North Laramie Land Company, Uva, Wyo.
Lake View Irrigation Co., Cody, Wyo.
Uinta County Irrigation Co., Marbleton, Wyo.

There are a dozen other companies having projects in more or less advanced stages of development and some of them will no doubt have lands available for contract during the season of 1911. Two of the largest irrigation enterprises in the west are the Oregon Basin project comprising about 200,000 acres of land in Big Horn County, between Cody and Greybull, Wyoming and the Central Wyoming project on the Indian Reservation near Riverton in Fremont County, which will reclaim over 300,000 acres. At this time propositions are being made to the State Land Board for the building of the necessary irrigation systems and it is hoped that these two projects, which are probably the best in the west, will be begun during the season of 1911. **By writing to the Commissioner of Public Lands,** Cheyenne, you can secure the biennial report of that department for the period expiring September 30, 1910, which will give a full statement of the present condition of each and every irrigation project.

CHEYENNE.

The capital city of Wyoming and the county seat of Laramie County has a population of 11,320 and adjoins Fort Russell, one of the four largest military posts in the United States, which has a minimum population of about 3,500. An electric railway connects the Fort with the city.

For the use of the Fort and the city one of the finest gravity water systems in the United States has been built embracing five storage reservoirs which will afford a pure and abundant water supply for domestic irrigation and manufacturing purposes. A home building and loan association with $500,000 assets has enabled many people of moderate means to build and own their own homes. **"The Plains,"** a large hotel which would be a credit to any city, was completed January 10, 1911, and represents an investment of $300,000, and several other smaller hotels have recently been built in addition to those which have heretofore taken care of the people, so that in future Cheyenne will be able to care for the large tourist travel. One thousand skilled mechanics are employed in the Union Pacific shops. **The State Capitol,** the $400,000 Federal Building, Catholic Cathedral, Elks' Home, Masonic Temple and magnificent church, school and library buildings in the city are the source of constant admiration to visitors. **The Park system** of Cheyenne is a credit to the community. The annual Frontier celebration is known wherever the English language is spoken and every year attracts parties from outside of the limits of the United States. **The climate of Cheyenne** and its altitude are the same as that of Colorado Springs, Colorado. Surrounding the town are excellent roads which extend in every direction and which are available for automobile travel, affording excellent trout fishing within a few hours ride. Cheyenne has many manufacturing establishments. Its pressed brick plant is supplying millions of brick to the surrounding country. A modern packing house offers a ready market for all the hogs and cattle of the vicinity. **The Government and State Experimental Farms** show the results of dry farming and irrigation methods, and over 4,000 people have settled on farms in the vicinity of Cheyenne in the last few years. The Cheyenne Industrial Club, composed of 300 live citizens is always ready to give information to prospective homeseekers or investors.

WYOMING AT A GLANCE.

From Wyoming Commercial Club Circular.

Area, 97,890 square miles.

Average temperature, 44 degrees.

Wool clip worth $6,000,000.

Peerless in its educational facilities.

Area of coal land, 20,000 square miles.

Cattle, 700,000, worth $14,000,000.

Highest grade of soft coal known.

Finest trout fishing known to mortal man.

Mean elevation, 6,000 feet above sea level.

Area covered with timber, 10,000,000 acres.

Tons of stream tin have been mined and sold.

Lofty mountains, rolling plains, vast plateaus.

Iron, copper and coal enough for a vast empire.

Five million head of sheep, valued at $17,500,000.

Finest natural plaster on earth, manufactured at Laramie.

Area subject to irrigation and cultivation, 10,000,000 acres.

Father of modern irrigation law and the reclamation act.

Foremost in the application of the Carey desert land act.

Hundreds of miles of railroad construction laid out for the future.

Nutritious grasses, furnishing abundance of feed for live stock.

One hundred cars per day of iron ore shipped from Sunrise to Pueblo, Colo.

Natural gas in commercial quantities discovered southwest of Douglas.

Average interest rate in Wyoming, about 8 per cent, indicating good business conditions and a strong demand for money. Gilt-edged security, of course, brings money at a lower rate.

In round numbers, the life insurance policies aggregate $5,000,000.

Great opportunities for making money in sheep, cattle and horses.

Greatest wonderland of the world, the Yellowstone National Park.

All the materials necessary for the manufacture of the finest glass.

Coal mines are being operated in all the counties of the state, save one.

Area subject to entry under the land laws of the United States, 48,000,000.

The property of Wyoming is insured against fire to the extent of $7,000,000.

Most famous rendezvoux in the world for large game; the hunter's paradise.

Source of the Columbia, the Missouri, the Colorado, the Rio Grande and the Platte.

One million acres of land now being reclaimed under government and private enterprises.

Vast iron deposits, second to no State in the Union, cheaply mined and high in value.

Finest hot springs on earth, equal to Carlsbad in mineral properties, located at Thermopolis and Saratoga.

All the mountain ranges contain gold and silver deposits, awaiting the hand of the prospector and the miner.

Resources practically undeveloped. Greatest field on the continent for moneyed men to get in on the ground floor.

Sulphur, asbestos and plumbago are among the minerals discovered in quantities considered commercially valuable.

Grand opportunity for making money in the fattening of lambs upon field peas and alfalfa raised upon Wyoming soil.

The rate of taxation throughout the state has decreased in the aggregate during the past ten years two mills on the dollar.

Semi-anthracite coal has been discovered in Johnson County, and coking coal has been discovered in two or three localities, notably at Newcastle.

County bonds have sold as low as 4 per cent; school district bonds, 4½ per cent and municipal bonds at the same price, showing in the most conclusive manner that the credit of the state is very high.

An Expert's Advice on the Fertilization of Land

HOW TO RESTORE FERTILITY TO WORN-OUT SOILS

The Restoration of Fertility to Worn-out Land Being a Matter of Importance to All
Tillers of Soil, We Publish the Following Information for Land Cultivators,
Issued by the U. S. Bureau of Agriculture at Washington.
These Directions About Land Culture Come
In a Pamphlet Entitled

RENOVATION OF WORN-OUT LAND

By W. J. Spillman,

Agriculturist in charge of Farm Management Investigations, Bureau of Plant Industry. Assisted by Dr. J. A. Bonsteel of Bureau of Soils Industry.

A summary of subjects treated includes: **Differences in Natural Fertility—Nature of the Soil—Mineral Plant Food—Nitrogen Compounds—Soil Moisture and Humus—Soil Air—Substances Thrown Off in the Soil by Growing Plants—Effects of Tillage—Effect of Plowing Soil When Too Wet or Too Dry—Terracing and Soil Washing—Improving the Soil—Increasing the Stock of Humus—Stable Manure—Green Manures—Crimson Clover—Vetches—Rye—Cowpeas—Miscellaneous Green Manure Crops—Types of Farming That Build Up the Soil Quickly.**

PRELIMINARY REMARKS

For nearly two centuries after the advent of the white man in America farming was confined to a narrow strip of land adjacent to the Atlantic; the population was sparse, and when a field became worn out the near-by woodland was cleared. As population increased, the younger generation crossed the Alleghenies, beginning the tide of migration which has moved westward until the present time, but which has now occupied nearly all of the easily available lands from the Alleghenies to the Pacific. In its westward course this advancing host farmed virgin soils for a century. The marvelous development which has occurred in this country during the past century was made possible by the abundant fertility of the new lands brought under cultivation and the consequent abundance and cheapness of farm products.

So long as plenty of fertile land remained unoccupied in the West the exhaustion of the older land in the East was a matter of concern only to the farmers of the older settled communities. But now we are confronted by the necessity of tilling soils whose ability to produce satisfactory crops has been greatly impaired. There is even a perceptible flow of immigration from the high-priced lands of the Middle West to the depleted lands of the Atlantic seaboard. This has been made possible by the recent remarkable development of agricultural science, which has demonstrated the feasibility of restoring fertility to exhausted soils. Agricultural science is also **responsible** for the present movement from the city to the country. The conditions of country life have been alleviated; the farm has been made attractive by adding the zest of intellectual occupation in the splendid agricultural literature of the day; and farming, when intelligently followed, has been made profitable, even on lands that were formerly unproductive.

DIFFERENCES IN NATURAL FERTILITY.

There is a vast difference in the natural fertility of soils. Some do not produce well from the start unless special attention is given to making them productive; others produce large crops **for a short time** and then rapidly diminish in fertility; while others, known as strong soils, remain productive for many years without attention to their fertility. But even the strongest soils will wear out in time unless they are intelligently managed. Curiously enough, as the tide of migration went westward in this country, the settlers found soils of increasing natural fertility as they went, and in each new settlement the opinion prevailed that the soil was inexhaustible. But even the strong soils of the western prairies have now been cropped with grain and abused by improper methods of tillage until they show signs of approaching exhaustion.

Fortunately, while the rich soils of the West were being depleted of their fertility, the development of agricultural science was going forward with rapid strides, and, while there is much yet to learn about the soil, we now know, in a general way, the steps necessary to build up and maintain soil fertility. In fact, soils that were originally only moderately productive, and that have been rendered almost sterile by improper methods of farming, can be made richer than they ever were.

NATURE OF THE SOIL.

In order to understand the methods necessary for restoring worn-out soils, let us consider what occurs in a fertile soil that is growing a large crop. Imagine a cubic inch of ordinary field soil magnified into a cubic mile. It would then present very much the appearance of a mass of rocks varying from the size of a pea to masses several feet in diameter. Scattered among these rock masses would be many pieces of decaying plant roots and other organic matter, resembling rotting logs in a mass of stones and gravel. The masses of organic matter would be found to contain large quantities of water, and to somewhat resemble wet sponges, while every mass of rock would have a layer of water covering its surface. The open spaces between the solid masses would be filled with air.

If a crop were growing on this soil, its roots would be found threading their way among the masses of rock and decaying roots, and pushing these aside by the pressure exerted by the growing root. From the surface of the growing root, near its tip, small hollow threads (the root hairs) extend into the open spaces and suck up the water covering the rock particles. The root hairs are not open at the end; they absorb the water through their walls. The plant food is dissolved in this water, but is usually present in exceedingly small quantities. **While the plant** is growing a constant stream of water flows up through it and evaporates at its leaves. For every pound of growth in dry matter made by the plant, from 300 to 800 pounds of water flow up through it.

The plant food substances dissolved in the soil water may be divided into two classes, according to their ultimate source.

MINERAL PLANT FOOD.

Plants in their growth make use of thirteen chemical elements, nine of which they secure directly from the soil. These are called the mineral plant foods; they are phosphorus, potassium, calcium, magnesium, sodium, iron, silicon, chlorin and sulphur. We have already seen that the soil consists mainly of small particles of rock. The rock particles are of many kinds, but nearly all kinds contain more or less potassium, calcium, phosphoric acid, etc. Every year the soil water dissolves off a thin surface layer from each particle. Plants appropriate this water and thus secure mineral plant food.

Many generations of plants have thus been collecting their small toll of food from the soil and storing it up in their tissues. The amount of plant food made ready for plant use during each growing season through the slow solution of the mineral particles of the soil is doubtless supplemented to a considerable degree by the same kinds of material set free from the organic matter also found in the soil—that is, the mineral matter originally secured from the dissolved minerals, but built into plants during some former season, may again be used by other plants when the old matter is given an opportunity to decay in the soil. These foods derived directly from the mineral matter of the soil and indirectly from it through the growth, death, decay, and return of former crops, are also supplemented in many cases by the application of mineral matter in the form of commercial fertilizers.

BEST KINDS OF MANURE IN RENOVATING SOIL

Growing Crops to Plow Under

NITROGEN COMPOUNDS.

In addition to the nine elements already mentioned, the growing plant requires four other elements, as follows: Hydrogen, which it secures from water (water is a compound of hydrogen and oxygen); oxygen, which it secures partly from water and partly from the air; carbon, which is secured from carbonic-acid gas in the air; and nitrogen.

Nitrogen is in many respects the most important of all the plant-food elements. It is not found in appreciable quantities in the rock particles of the soil. Ordinarily plants depend for their nitrogen entirely on decaying organic matter. As decay proceeds nitrates are formed from the nitrogen contained in organic matter. The nitrates are exceedingly soluble, and unless soon made use of by growing crops they are washed out of the soil. Nitrogen is therefore usually the first element to become exhausted in the soil.

Fortunately, there are certain species of bacteria that can use atmospheric nitrogen, of which there is an inexhaustible supply. One family of plants—the legumes—has learned to exchange work with these bacteria, and these plants are thus easily supplied with an abundance of nitrogen in a form they can use. When these nitrogen-fixing bacteria are present in a soil on which a leguminous crop is growing, the bacteria invade the roots of the legume and live there. Their presence is usually made manifest by swellings—the so-called tubercles—on the roots of thrifty plants of clover, alfalfa, beans, peas, and other legumes. Nitrogen from the soil air filters into the roots, where the bacteria appropriate it, manufacture an abundance of nitrates, and give a portion to the plant in exchange for starch. The tissues of leguminous plants become very rich in nitrogenous compounds, and when they decay in the soil they set free large amounts of nitrates for the use of any crop which may be growing at the time.

The cultivation of leguminous crops is one of the most important and economical means of maintaining a supply of nitrogenous plant food in the soil. Nitrates may, of course, be supplied in commercial fertilizers; but fertilizers containing nitrogen are very expensive, and it usually pays better to supply nitrogen by growing legumes or by the application of stable manure, which is rich in nitrogen when properly handled. In good farm practice both stable manure and leguminous crops are used as sources of nitrogen.

SOIL MOISTURE AND HUMUS.

In order to produce a ton of dry hay on an acre of land it is necessary that the growing grass pump up from that acre approximately 500 tons of water. In order to supply this enormous quantity of water, the soil must not only be in condition to absorb and hold water well, but it must be porous enough to permit water to flow freely from soil grain to soil grain. The presence of large quantities of decaying organic matter (humus) adds enormously to the water-holding capacity of the soil. One ton of humus will absorb 2 tons of water and give it up readily to growing crops. Not only that, but the shrinkage of the particles of decaying organic matter and the consequent loosening of soil grains keep the soil open and porous.

Furthermore, humus of good quality is exceedingly rich in both nitrogen and mineral plant food. The maintenance of fertility may almost be said to consist in keeping the soil well supplied with humus. **The first step** in renovating worn-out soils is to give them an abundant supply of humus of good quality. Perhaps the best source of humus is stable manure containing both the liquid and the solid excrement, especially when the stock are fed rich nitrogenous foods. Even a poor quality of barnyard manure, which has had much of the plant food leached out of it, has considerable value because of the humus it makes.

Another cheap and valuable source of humus, but one which must be used understandingly, is crops grown to turn under as manure. **The legumes** are especially valuable for this purpose because of the nitrogen they contain, but other crops, such as rye, and even corn sown thick, may sometimes be made to supply large quantities of humus of fair quality. Crops thus used are called green manures. They are more fully discussed farther on.

SOIL AIR.

A proper circulation of air in the soil is just as important as any other factor of plant growth. Nearly half of the volume of ordinary soils is occupied by air spaces. The air spaces in the soil wind in and out between the soil particles, just as they do in a pile of larger stones. **If the layer of water** on the surface of the soil grains becomes so thick as to stop the air passages here and there the soil is then too wet for most crops and needs drainage. Plants have no special breathing organs, the oxygen required in their breathing finding entrance all over the surface of the plant. Plant roots must therefore be supplied with air, and hence the soil must be porous enough to permit of free circulation of air. A good supply of humus and proper tillage will accomplish this result in clay soils. Sandy soils are usually too porous, needing humus to help them retain water.

Another reason why air must circulate freely in the soil is that large quantities of oxygen are required to insure proper decay of organic matter to supply plant food. Also, carbonic-acid gas is produced by the decay or organic matter, and this must escape easily to make room for the atmospheric oxygen needed in the soil. The movement of air in the soil is frequently shown by the bubbles which appear at the surface of the soil just after a hard rain. As the water soaks into the soil it drives the air out, and bubbles may be seen at the surface if water enough is present to form them.

One of the most important objects of plowing is to loosen up the soil and mix fresh air with it.

SUBSTANCES THROWN OFF IN THE SOIL BY GROWING PLANTS.

Considerable evidence has been accumulated during recent years to show that the cause of the failure of some soils to produce satisfactory crops may be ascribed to unfavorable conditions produced in the soils by the plants themselves. It is thought that during the growth of the plant certain unknown organic substances are given off which, when they accumulate in the soil to any extent, are harmful to the further growth of plants of the kind that produced them. It is possible that some of the benefits known to arise from systematic crop rotation may be explained on this basis. These harmful substances seem to be disposed of rapidly by certain soils, usually those in which organic matter is readily converted into humus. Other soils, usually marked by a lack of the brown carbonized organic matter, do not seem to possess this property of removing harmful plant products to such a degree. **This idea is in accord** with the common experience that dark-colored soils, well filled with organic matter, are usually very productive.

In connection with the study of these poisonous organic products, it has been found that they may be destroyed or at least rendered harmless in a variety of ways. 'Barnyard manure or decaying organic matter, such as a green crop of rye or cowpeas, turned under has a very marked effect in freeing the soil from them. Almost all of the common commercial fertilizing materials act more or less in the same way. **Commercial fertilizers** for soil improvement have, therefore, another value besides adding plant food. Thorough and complete airing of the soil will often destroy or overcome these poisonous substances. The beneficial effects of plowing and of thorough surface tillage are thus explained, in part at least, on the basis of the thorough aeration secured. **When the same crop** is not grown oftener than every three or four years on the same land the injurious substances a crop throws off seem to have time to disappear before the same crop is grown again; hence the benefit from crop rotation. When the soil is well supplied with humus there is seldom any trouble from this source, and the same crop may be grown year after year with good yields, though continuous cultivation of the same crop may invite injury from certain insects and fungous diseases which live over in the soil or in the remains of the crop.

EFFECTS OF TILLAGE.

Improper methods of tillage add very greatly to the evil effects that result from lack of humus. In many parts of the country the land is plowed only

Treatment of New Land When First Broken

PLOWING—WHEN TO PLOW—DEPTH TO PLOW

Effect of Plowing When Soil Is Too Wet

3 or 4 inches deep. Below the plowed stratum the soil becomes sour, densely packed, and unfit for plant roots. When such soils are plowed deep and this sour packed subsoil is mixed with the upper portion, the growth of many crops is greatly retarded. This has led many farmers to believe that deep plowing is ruinous. Some farmers have tried to remedy the difficulty by subsoiling. The subsoil plow breaks up the packed layer but does not throw it out on top. **But while subsoiling** does break up the hard layer into chunks it does not pulverize it or put humus into it. In most cases work done in subsoiling is practically wasted, and it is doubtful if it ever pays. **A much better method** is to plow a little deeper each year until a depth of 8 or 10 inches is reached. This gives a deep layer of good soil, particularly if the supply of humus is kept up. **When new soil,** or that which has lain undisturbed for several years, is broken up, it is always best to plow deep from the beginning, for the deeper layers will be about as fertile as any, except the top inch or two. It is wise, too, never to plow the same depth twice in succession. In general, fall plowing should be from 7 to 9 or 10 inches and spring plowing from 5 to 7 inches deep. There are special cases in which these rules do not apply, but their discussion would take us too far from the purpose of this paper.

We plow the soil in order to loosen up its texture and get air into it; also to turn under stubble, manure, etc., to make humus. Killing weeds is another object accomplished by plowing. After a soil has been thoroughly pulverized to great depths, so that there is no danger of turning up packed clay, the deeper the plowing the better the crops. But the cost also increases with depth, so that ordinarily it does not pay to plow more than about 10 inches deep.

Some crops prefer rather a loose seed bed. Millet is such a crop. Farmers sometimes plow a second time in order to sow millet on freshly plowed land. Other crops, such as wheat and alfalfa, prefer a fairly compact seed bed; hence, frequent harrowing and rolling after plowing is good practice before seeding to these crops. Nevertheless, it pays to plow the land for them, even if we have to compact it again before seeding. The plowing aerates the soil and helps to set plant food free.

EFFECT OF PLOWING SOIL WHEN TOO WET OR TOO DRY.

Sandy soils are usually not injured by handling when wet; but the case is different with clay soils. A fair quality of brick can be made from any heavy clay soil by working it thoroughly when wet and then drying it in the sun. The effect produced by working clay soils wet is known as puddling. Irrigation ditches in the West are puddled by first flooding them to make them muddy and then driving bands of sheep along in this mud. This makes the bottom impervious to water and prevents loss from leakage. If a clay soil is plowed, or even harrowed, when too wet it is more or less puddled. In this condition it becomes cloddy and impervious to air and water. Old roadways that have been thoroughly puddled from traffic in all kinds of weather may be distinguished in fields many years after they have been plowed up and put into cultivation.

The proper time to plow land is when it is just moist enough to break up mellow, neither wet enough to leave a slick surface where rubbed by the moldboard nor dry enough to break up in large clods; or, as the southern farmer puts it, when the soil has a good season in it. If continued rain follows wet plowing, little harm follows; but hot, dry winds would soon leave only a mass of unmanageable clods. **In spring and midsummer** plowing, particularly, it is of the utmost importance to run the harrow immediately after the plow. This prevents the formation of clods. In late fall plowing, the clods are no disadvantage, for they will be broken up by freezing and thawing during the winter.

TERRACING AND SOIL WASHING.

One of the most serious results that follow shallow plowing, at least in hilly regions, is the washing away of the soil in torrential rains. In some sections particularly in the southern portion of the Appalachian Mountain region, farmers have attempted to counteract this by means of terraces. Much of the farm land in the Carolinas, Georgia, and Alabama is nothing but a series of stair steps. When terraces are properly laid out they do prevent washing, but they are a very expensive means of accomplishing the end sought. They occupy land that ought to be in crops. They seed the land with weeds. When improperly constructed, and they usually are, they cause great ditches to be washed in the hillsides. Besides this they cut the land up into small, irregular patches and greatly increase the cost of tillage. There is a better way of preventing washing in nearly all cases.

In the first place, where land has been plowed only 3 or 4 inches deep for several years the subsoil becomes impervious to water and can not absorb a heavy rainfall fast enough to prevent its flowing over the surface. But when the land is plowed gradually deeper until a good depth of loose soil is obtained, and particularly when an abundance of humus is supplied from grass roots and stubble, or from green crops turned under, or, better still, from barnyard manure, the soil becomes so porous that the heaviest rains cause little or no flowing of water on the surface. Striking illustrations of this fact are to be found on the farm of Mr. W. L. Williamson, of Jackson County, Ga., and on the farm of Rev. J. D. Detrich, described in the Yearbook of the Department of Agriculture for 1903 under the title "A Model Farm." **In the Yearbook** paper referred to, illustrations are shown of two fields lying side by side, both in rye. The pictures were taken within a few feet of each other. In one two large ditches had just been filled with dirt. In the other there was no tendency to wash. Mr. Williamson's farm is located in a region where terracing is very general. Since he abandoned cotton culture and began dairying he has plowed up all his terraces, and his land does not wash. He plows deep and manures heavily. But it is possible to accomplish similar results, even on a farm largely devoted to cotton, by deep plowing and the use of green manures to supply humus.

IMPROVING THE SOIL.

We have seen that poverty in soil may be due to poor texture, unfavorable structure, lack of humus, deficiencies in the amount, form, or proportion of plant food, and to the presence of harmful mineral and organic compounds. With the exception of nitrogen, most soils, even those that are very poor, usually contain an abundant supply of plant food, though sometimes other elements are lacking or are present only in those forms that plants can not use.

To increase fertility we must improve texture and add plant food and humus. Tillage may do much to improve texture, but tillage alone will not suffice. We must add humus. In doing so we add plant food, and make the soil more permeable to air and water.

INCREASING THE STOCK OF HUMUS.

There are three general methods of supplying humus to the soil. The first and best is the addition of stable manure. When properly managed it adds large quantities of both plant food and humus. But manure is not always available. When such is the case, the best thing to do is to make it available. Raise more forage, keep more stock, and make more manure. But this takes time and capital, so that other means are sometimes necessary. When stable manure is not to be had, we may plant crops for the purpose of turning them under, thus adding large quantities of humus at comparatively little cost. Plowing under green crops is called green manuring. Under certain conditions this is an excellent practice. Crops adapted to this purpose and the method of using them are discussed farther on (p. 12).

A third method of adding humus is to grow crops like clover and timothy. These crops are usually left down for two years or more. During this time their roots thoroughly penetrate the soil. Old roots decay and new ones grow. When the sod is plowed up, more or less vegetable matter is turned under. This, with the mass of roots in the soil, adds no small amount to the supply of humus. Another advantage from the cultivation of clovers and alfalfa is found in the fact that they are deep-rooted plants, and when their roots decay they leave channels deep

HOW TO GET BEST RESULTS IN MANURING

The Waste of Manure On Farms

into the earth, thus aiding in the absorption of rains and letting in air to sweeten the soil.

STABLE MANURE.

Properly handled, stable manure is by all means the best remedy for poverty of the soil. Very few farmers handle manure so as to get even as much as half the possible value from it. There is probably no greater waste in the world than in connection with the handling of manure by the American farmer. Five-eighths of the plant food in manure is found in the liquid part of it. This is usually all lost. Not only is this the case, but the solids are piled beside the barn, frequently under the eaves, where rains wash away much of their value. Fermentation in these manure piles also sets free much of the nitrogen to escape into the air.

The writer has seen few farmers who had no apologies to make for their methods of handling manure. He has seen one, however, who believed he was getting every particle of value from the manure it is possible to get. The farm in question was a dairy farm, and the methods used are not applicable to all types of farms. The cows were kept in their stalls the year around. Every day in the year they had either silage or green stuff from the fields. They also had enough dry hay to keep the manure from being too washy, and what grain they needed. Behind each row of eight cows was a ditch 18 inches wide and 8 to 10 inches deep. This ditch was cleaned thoroughly every morning after milking hours. After the cleaning, a small quantity of wood ashes was sprinkled in the ditch to dry it; then a layer about 1½ inches deep of rotten sod or leaf mold was added. Next morning the contents of the ditch were lifted into a cart by means of forks, and the cart went immediately to the field where the manure was scattered. **In exceptionally bad weather** the ditch was sometimes left for two days. This farmer always had a place to put manure.

This method may not be applicable to all dairy farms, but it is the ideal to be followed as closely as circumstances will permit. If there is no sod on which to haul manure in wet weather, it is well to have a cemented pit under cover, in which to place the manure until it can be hauled to the field. When the ground is frozen in winter, manure can be spread on almost any field. Generally speaking, it should be spread on the field next to be plowed. The above method of handling manure gets both liquids and solids on the land. If any leaching occurs, let it be into the soil where the leachings will do the most good. Recent investigations indicate that when liquid manure is applied to the soil, the plant food in the manure is absorbed and held in the soil, and is not immediately washed out if not made use of by the plants.

GREEN MANURES.

The practice of plowing under green crops as manures is not very general, and we do not know as much as we should like to know of the value of this method. Some crops do not thrive when sown on land into which a green crop has recently been plowed. This is particularly true of those crops that like a solid seed bed, or which are sensitive to acids. When a heavy green crop is plowed under, it goes through a fermentation not unlike that which occurs in a barrel of kraut, resulting in the formation of a considerable amount of acid.

Alfalfa is particularly sensitive to acids, and it also requires a compact seed bed. It is unwise, seeding to alfalfa. The cereals, particularly wheat and rye, do not do well after a green manure. On the other hand, potatoes and corn are not seriously injured by green manures. In fact potatoes are benefited by them, since the resulting acid condition of the soil prevents the development of potato scab.

Generally speaking, when it is desirable to plow in a green crop before fall-sown crops, it should be done a month or six weeks before planting time, and the soil should be harrowed frequently or otherwise compacted. A few good rains will wash out most of the acids and aid in compacting the soil. The acid may also be counteracted by adding lime.

CRIMSON CLOVER.

Along the Atlantic coast as far north as New Jersey and south at least to Georgia, crimson clover, frequently called German clover, thrives as a winter annual. Like all the legumes it stores up much nitrogen and greatly enriches the soil in this element. This crop deserves a much wider field of usefulness than has yet been accorded it. **In the northern** part of its territory it should be sown in July. In the South, September is supposed to be the best time to sow it. It is best adapted to sowing in corn or cotton. In sections where it has not previously been grown it frequently fails, apparently from lack of its proper bacteria. It is therefore well to inoculate the seed when it is sown for the first time.

This crop furnishes valuable winter pasture, makes good hay if cut when just coming into full flower, and is valuable as a green feed in spring. It helps to fill the gap in the soiling system between green wheat and early corn. Perhaps its greatest usefulness is as a green manure. It may be plowed under any time in the spring and be followed by corn or potatoes.

In this connection, the practice of a farmer near Hagerstown, Md., is of interest. Ten years ago he began sowing crimson clover in corn at the last plowing, covering the seed with the cultivator, and using 10 pounds of seed to the acre. In the spring the clover was plowed under and another crop of corn planted. Ten consecutive crops of corn have been taken from this field, a crop of crimson clover being plowed under each spring. The yield of corn has increased during that time from about 35 bushels, in the beginning, to about 50 bushels at the present time. Evidently the practice was a good one in this case.

Those who are not familiar with crimson clover should try it on a small scale at first, as there have been many failures with it. The following five-year rotation is a good one on stock farms in middle latitudes, and shows one way of securing the benefits of crimson clover as a green manure: Corn with crimson clover sown at last cultivation, corn, oats, wheat, clover (common red).

VETCHES.

The vetches can be made to occupy a somewhat similar place as a green manure, at least in the South. Prof. E. R. Lloyd, of the Mississippi Agricultural Experiment Station, reports an instance of a cotton grower who uses hairy vetch and cowpeas in a unique manner. At the beginning he sowed hairy vetch broadcast in his cotton at the last plowing. The next spring the old cotton stalks were left standing, the new rows of cotton being planted in the middles, which were bedded up in the usual manner. When the vetch had made seed, the stalk cutter was run over the old rows and they were then plowed out and cowpeas planted in their place. Subsequent cultivation was between the cotton and the cowpea rows. In the autumn the vetch sprang up again and grew during the winter, the cowpeas being left to decay in place. The following spring the cotton rows followed the old cowpea rows, and the vetch was left to seed on the old stalks as before. This method requires that the cotton rows should be about 5 feet apart, but the farmer who practices it assured Professor Lloyd that his yield of cotton had doubled in the three years since the practice was started. This method is worth the attention of farmers who grow cotton continuously on the same land, and this class includes the vast majority of cotton growers.

RYE.

Rye is not half appreciated by the American farmer. It is very hardy, will grow on the poorest land, makes good winter and spring pasture, and if sown early enough makes good fall pasture. It is a good spring soiling crop, giving the earliest bite of green stuff. It makes a fair quality of hay if cut in bloom or before, and its straw always sells at good prices and makes the best of bedding for cattle and horses. It is also an excellent green manure crop

FERTILIZERS THAT BUILD UP SOIL MOST QUICKLY

Valuable Crops in Plowing to Turn Under

for turning under in early spring. While it does not add nitrogen as the clovers do, it makes a great deal of humus, and thus improves the texture of worn out soils. It will grow in any section that can grow any of the small grains. Where corn or potatoes or cowpeas are grown after corn, rye may be sown in the corn at the time of "laying by," or may be sown on the stubble after the corn is cut, and be plowed under in the spring for any of the crops mentioned.

COWPEAS.

The cowpea has been a boon to the farmers of the South, and its value is coming to be generally recognized. During the past few years the demand for cowpea seed has exceeded the supply, and high prices have resulted. A good way to secure its beneficial effect on the soil is to sow it in corn at the last cultivation. This practice has become wellnigh universal in the South and is extending northward. This crop may also be sown after wheat, oats, or rye, at least from the latitude of Washington, D. C., southward, and may be harvested for hay in time for another fall crop to be sown. Prof. H. J. Waters, of the Missouri Agricultural Experiment Station, has grown cowpeas between wheat crops for several years past and increased the yield of wheat in a marked degree.

It seldom pays to turn under a crop of cowpeas in the green state. It is better practice to make hay of them, feed the hay, and put the manure back on the land. As is the case with all legumes, the roots of the cowpea crop add a great deal of nitrogen to the soil, and have a marked effect on fertility. If a heavy green crop of cowpeas is plowed under in the autumn it is best not to plant the land until the following spring. A very good plan for bringing up the fertility of a worn-out field is to sow rye in the fall, plow this under in the spring, harrow thoroughly, let the land lie a month, and then sow cowpeas. **Cut the peas for hay** and sow rye again. A few seasons of such treatment will restore fertility to the soil. Fortunately, both of these crops will grow on very poor land.

MISCELLANEOUS GREEN-MANURE CROPS.

Almost any crop may be used as a green manure, as occasion demands. Those previously mentioned are more generally used for this purpose than others. In plowing up clover sod, many farmers, particularly on fields most in need of manure, wait until the clover is nearly ready to cut for hay before plowing, in order to get the additional nitrogen and humus thus produced. Buckwheat is frequently grown as a green manure. This crop is planted in early summer or late spring and turned under in the autumn. Even corn and sorghum have been used for this purpose. They produce large amounts of humus when thickly planted. Sufficient time should be given after plowing in such rank growth to allow the soil to settle and the resulting acids to wash out of the soil before planting another crop. In southern California, fenugreek and Canadian field peas (the so-called "English pea" of the South) are used extensively as winter cover crops in orchards. They are then plowed under in the spring as green manure.

TYPES OF FARMING THAT BUILD UP THE SOIL QUICKLY.

The quickest way to build up a worn-out soil when barnyard manure is not plentiful is to give it a course of treatment like that just described; then grow only forage crops, buy grain to feed with them, and return all the manure thus produced to the land. Dairy farming permits such a system to be practiced. No other type of farming builds up land so rapidly.

Another type that gives fairly quick results is to grow a succession of pasture crops for hogs, keep the hogs on these pastures, and feed them a fourth to a half ration of grain. In middle latitudes the following system is adapted to this type of farming: Grow corn enough for the pigs on part of the farm, sowing either cowpeas or crimson clover or rye in the corn yearly, to keep up fertility. The two latter crops furnish winter pasture for the pigs. On the remainder of the farm run the following three-year rotation: Sow oats in early spring; follow by rye sown early in August; follow this by sorghum the following spring; in September or October sow rye again after the sorghum; late the next spring sow either sorghum or cowpeas, and begin over again with oats the succeeding spring. This may be made a four-year rotation by inserting artichokes or sweet or Irish potatoes between the August-sown rye and the sorghum. If these crops are all pastured down, the hogs being fed a little grain meanwhile, the soil will improve. With such a system, at least on clay soils, the hogs must not be allowed on the fields when the soil is wet, as they will puddle it to such an extent as to do serious injury. To avoid this difficulty, there should be an additional field of good sod for the hogs to run on in wet weather. In sections where alfalfa thrives, hogs may be pastured on this crop in summer (in winter also in the far South) and fed a little corn. In winter such crops as rape and kale may take the place of the alfalfa, and the grain feed may thus be increased. **Such a system** takes nothing from the land, but care must be used not to puddle the soil by pasturing in wet weather. There should be a field of good sod in reserve for such periods.

SUMMARY.

We may sum up the matter briefly thus: To build up and maintain fertility in the soil, feed a large part of the crops and return the manure to the land. If manure is not available, plow under crops grown for the purpose. Plow deep (but do not subsoil). Grow leguminous crops for the nitrogen they add to the soil.

Commercial fertilizers and lime may be important means of improving the soil, but the fertilizer requirements of different soils and different crops in different seasons are so little understood that we are not yet in a position to make positive recommendations that are of general application.

Facts Concerning Poultry.

—Different breeds, their live weight, when full grown, the annual number of eggs they will lay, etc.

Breeds.	Live weight of Males.	Live weight of Hens.	No. of Eggs laid per year.	No. of Eggs to the pound.
Brahmas, light	11½	8	150	7
Brahmas, dark	10½	7	150	8
Cochins, black	10	7	170	9½
Cochins, buff	10	7½	120	8
Cochins, white	11	9	140	8
Cochins, partridge	11	8	150	8
Common	3½	3	160	11
Dorkings	6½	5	120	9
Dominiques, American	5	4	170	10
Games, black-breast'd, red	7½	5	170	10
Hamburgs	4	3	180	12
Houdans	7½	5	170	9
Leghorns, black	4½	3½	200	10
Leghorns, brown	4½	3½	200	10
Leghorns, dominique	4½	3½	200	10
Leghorns, white	4½	3½	200	10
Plymouth Rocks	8½	6½	175	8½
Polish	5½	3½	170	9
Spanish, black	7	6	170	9½
Ducks, common	3	3	90	9
Ducks, Aylesbury	7	6	80	6
Ducks, Cayuga	6	5½	100	8
Ducks, Pekin	6	5½	75	8
Ducks, Rouen	7½	6½	80	6
Geese, common	8	7	20	[illegible]
Geese, African	20	18	30	4
Geese, Egyptian	7	6	40	4
Geese, Embden	18	15	20	3½
Geese, Toulouse	22	20	40	3½
Turkeys, common	12	10	50	7
Turkeys, black	15	12	50	6
Turkeys, bronze	24	15	50	6
Turkeys, buff	15	12	50	7
Turkeys, Narragansett	22	14	50	6

Foods for Sheep.

In the course of several experiments by De Raumer, a French scientist, it was found that 1,000 pounds of different kinds of foods produced the following results. It will be seen by examination that wheat proved the most valuable food, barley came next, while mangolds stood lowest in the scale.

Substances.	Increase of weight in living animals.	Wool produced.	Tallow produced
Potatoes with salt	46½ ℔s.	6½ ℔s.	12½ ℔s.
Potatoes without salt	44 ℔s.	6½ ℔s.	11½ ℔s.
Mangold-Wurzels	38½ ℔s.	5½ ℔s.	6½ ℔s.
Wheat	155 ℔s.	14 ℔s.	59½ ℔s.
Oats	146 ℔s.	10 ℔s.	42½ ℔s.
Barley	136 ℔s.	11½ ℔s.	60 ℔s.
Peas	134 ℔s.	14½ ℔s.	41 ℔s.
Rye, with salt	133 ℔s.	14 ℔s.	35 ℔s.
Rye, without salt	90 ℔s.	12 ℔s.	43 ℔s.
Corn-meal, wet	129 ℔s.	13½ ℔s.	17½ ℔s.
Buckwheat	120 ℔s.	10 ℔s.	33 ℔s.

PRACTICAL FACTS TAKEN FROM REFERENCE TABLES

In Hill's Manual

AGRICULTURAL TABLES FOR FARMERS, GARDENERS AND OTHERS.

For many facts and figures in these various reference tables, credit is due the "American Almanac," edited by A. R. Spofford, "Moore's Universal Assistant," by R. Moore, the "American Farm and Home Cyclopædia," by H. R. Allen, "Farmers' and Mechanics' Manual," by Geo. B. Warring, "Statesman's Year Book," by Frederick Martin, "The Circle of Useful Knowledge" and other valuable works.

Vitality of Seeds.

Length of time that the seeds of various herbs and vegetables retain their powers of germination.

Vegetables.	*Years.*	*Vegetables.*	*Years.*
Cucumber	8 to 10	Leek	2 to 3
Melon	8 to 10	Onion	2 to 3
Pumpkin	8 to 10	Parsley	2 to 3
Squash	8 to 10	Parsnip	2 to 3
Broccoli	5 to 6	Pepper	2 to 3
Cauliflower	5 to 6	Salsify	2 to 3
Artichoke	5 to 6	Tomato	2 to 3
Endive	5 to 6	Egg-plant	1 to 2
Pea	5 to 6		
Radish	4 to 5	*Herbs.*	
Beets	3 to 4	Anise	3 to 4
Cress	3 to 4	Hyssop	3 to 4
Lettuce	3 to 4	Balm	2 to 3
Mustard	3 to 4	Caraway	2 ....
Okra	3 to 4	Coriander	1 ....
Rhubarb	3 to 4	Dill	2 to 3
Spinach	3 to 4	Fennel	2 to 3
Turnip	3 to 6	Lavender	2 to 3
Asparagus	2 to 3	Sweet Marjoram	2 to 3
Beans	2 to 3	Summer Savory	1 to 2
Carrots	2 to 3	Sage	2 to 3
Celery	2 to 3	Thyme	2 to 3.
Corn (on cob)	2 to 3	Wormwood	2 to 3

Number to an Acre

Of plants or trees set at regular distances apart.

Distances apart.	No. of plants.	*Distances apart.*	No. of Plants.
3 inches by 3 inches	696,960	6 feet by 6 feet	1,210
4 inches by 4 inches	392,040	6½ feet by 6½ feet	1,031
6 inches by 6 inches	174,240	7 feet by 7 feet	881
9 inches by 9 inches	77,440	8 feet by 8 feet	680
1 foot by 1 foot	43,560	9 feet by 9 feet	537
1½ feet by 1½ feet	19,360	10 feet by 10 feet	435
2 feet by 1 foot	21,780	11 feet by 11 feet	360
2 feet by 2 feet	10,890	12 feet by 12 feet	302
2½ feet by 2½ feet	6,960	13 feet by 13 feet	257
3 feet by 1 foot	14,520	14 feet by 14 feet	222
3 feet by 2 feet	7,260	15 feet by 15 feet	193
3 feet by 3 feet	4,840	16 feet by 16 feet	170
3½ feet by 3½ feet	3,555	16½ feet by 16½ feet	160
4 feet by 1 foot	10,890	17 feet by 17 feet	150
4 feet by 2 feet	5,445	18 feet by 18 feet	134
4 feet by 3 feet	3,630	19 feet by 19 feet	120
4 feet by 4 feet	2,722	20 feet by 20 feet	108
4½ feet by 4½ feet	2,151	25 feet by 25 feet	69
5 feet by 1 foot	8,712	30 feet by 30 feet	48
5 feet by 2 feet	4,356	33 feet by 33 feet	40
5 feet by 3 feet	2,904	40 feet by 40 feet	27
5 feet by 4 feet	2,178	50 feet by 50 feet	17
5 feet by 5 feet	1,742	60 feet by 60 feet	12
5½ feet by 5½ feet	1,417	66 feet by 66 feet	10

Cost of Producing Pork.

The cost of producing a pound of pork depends upon the cost of corn per bushel, as follows:

Corn per Bushel in Cents.	Will make the cost of pork per hundred.
12½ cts	$1.50
15	1.78
17	2.00
20	2.38
22	2.62
25	2.96
30	3.57
33	3.92
35	4.00
38	4.52
40	4.76
42	5.00
45	5.35
50	5.95
55	6.54
60	7.14
65	7.74
70	8.67

Cost of Small Quantities of Hay.

Price per Ton.	50 lbs. worth.	100 lbs. worth.	200 lbs. worth.	300 lbs. worth.	400 lbs. worth.
Four dollars	10 cts.	20 cts.	40 cts.	60	$ .80
Five dollars	12	25	50	75	1.00
Six dollars	15	30	60	90	1.20
Seven dollars	17	35	70	1.05	1.40
Eight dollars	20	40	80	1.20	1.60
Nine dollars	22	45	90	1.35	1.80
Ten dollars	25	50	1.00	1.50	2.00
Eleven dollars	27	55	1.10	1.65	2.20
Twelve dollars	30	60	1.20	1.80	2.40
Thirteen dollars	32	65	1.30	1.95	2.60
Fourteen dollars	35	70	1.40	2.10	2.80
Fifteen dollars	37	75	1.50	2.25	3.00

Facts About Sheep.

The weight of any animal at a certain age, will, of course, depend upon the manner in which it is fed and cared for. Supposing sheep to be well fed and sheltered, the following presents an average yield of flesh and wool at a certain age.

Breeds.	Bucks weigh.	Ewes weigh.	Age at maturity Years.	Annual yield of wool lb
Cotswold	300	200	2	14
Lincoln	300	200	2	11
Leicester	250	150	2½	8
Merino, American	150	130	2	9
Merino, Spanish	125	110	3	10
Southdown	200	140	2	6
Shropshire	200	140	2	6
Common "Scrub"	120	90	3	4

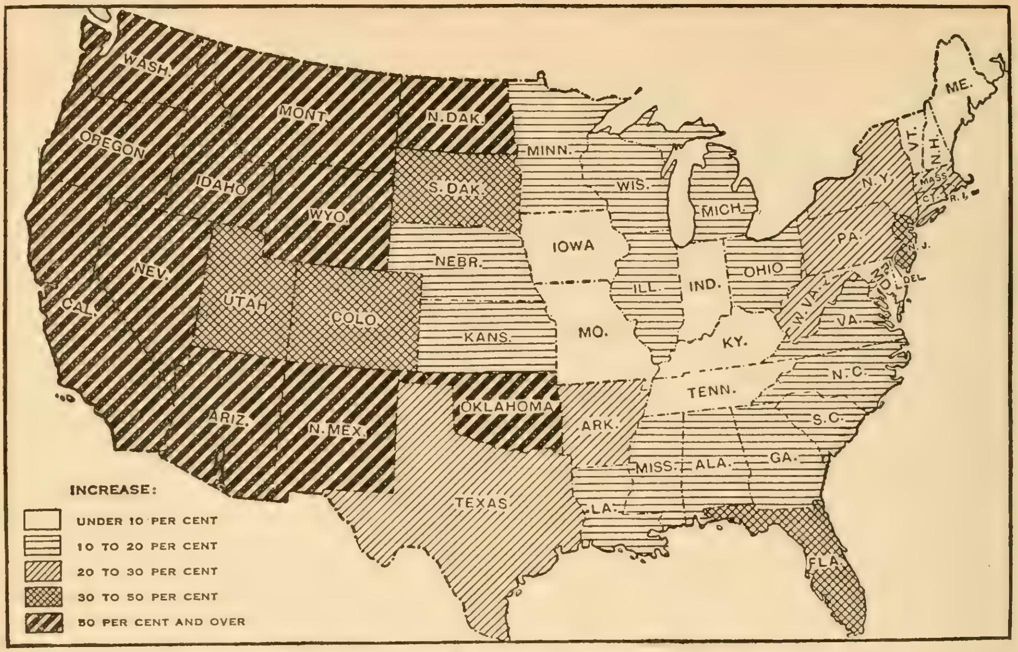
Weight of Horses.

Breeds.	Stallions.	Geldings and Mares.	Age when Matured.
Cleveland Bay	1,400	1,300	6
Clydesdale	1,900	1,700	4½
English draft	1,800	1,650	6
Hambletonian	1,150	1,100	5
Mambrino	1,200	1,150	5
Morgan	950	900	5
Percheron—Norman	1,750	1,550	4
Pony—Canadian	950	900	4
Pony—Mustang	500	450	3
Pony—Shetland	300	250	3
"Scrub," or Native	1,000	950	4½
Thoroughbred	1,150	1,000	3
Ass	700	600	6
Mule		1,000	5

Quantity of Seed Required to Sow or Plant an Acre.

Kind of Seed.	*Quantity.*
Asparagus in 12-inch drills	16 qts
Asparagus plants, 4 by 1½ feet	8,000
Barley	2½ bu
Beans, bush, in drills 2½ feet	1½ bu
Beans, pole, Lima, 4 by 4 feet	20 qts
Beans, Carolina, prolific, etc., 4 by 3	10 qts
Beets and mangold, drills, 2½ feet	9 lbs
Broom corn in drills	12 lbs
Cabbage, outside, for transplanting	12 oz
Cabbage, sown in frames	4 oz
Carrot in drills, 2½ feet	4 lbs
Celery, seed	8 oz
Celery, plant, 4 by ½ feet	25,000
Clover, white Dutch	13 lbs
Clover, Lucerne	10 lbs
Clover, Alsike	6 lbs
Clover, large red with timothy	12 lbs
Clover, large red without timothy	16 lbs
Corn, sugar	10 qts
Corn, field	8 qts
Corn, salad, drill 10 inches	25 lbs
Cucumber, in hills	3 qts
Cucumber, in drills	4 qts
Egg plant, plants 3 by 2 feet	4 oz
Endive, in drills 2½ feet	3 lbs
Flax, broadcast	20 qts
Grass, timothy with clover	6 qts
Grass, timothy without clover	10 qts
Grass, orchard	25 qts
Grass, red top or herds	20 qts
Grass, blue	28 qts
Grass, rye	20 qts
Grass, millet	32 qts
Hemp, broadcast	½ bu
Kale, German greens	3 lbs
Lettuce, in rows 2½ feet	3 lbs
Leek	4 lbs
Lawn grass	35 lbs
Melons, water, in hills 8 by 8 feet	3 lbs
Melons, citrons, in hills 4 by 4 feet	2 lbs
Oats	2 bu
Okra, in drills 2½ by ½ feet	20 lbs
Onion, in beds for sets	50 lbs
Onion, in rows for large bulbs	7 lbs
Parsnip, in drills 2½ feet	5 lbs
Pepper, plants, 2½ by 1 foot	17,500
Pumpkin, in hills 8 by 8 feet	2 qts
Parsley, in drills 2 feet	4 lbs
Peas, in drills, short varieties	2 bu
Peas, in drills, tall varieties	1 to 1½ bu
Peas, broadcast	3 bu
Potatoes	8 bu
Radish, in drills 2 feet	10 lbs
Rye, broadcast	1½ bu
Rye, drilled	1½ bu
Salsify, in drills 2½ feet	10 lbs
Spinach, broadcast	30 lbs
Squash, bush, in hills 4 by 4 feet	3 lbs
Squash, running, 8 by 8 feet	2 lbs
Sorghum	4 qts
Turnips, in drills 2 feet	3 lbs
Turnips, broadcast	3 lbs
Tomatoes, in frames	3 oz
Tomatoes, seed in hills 3 by 3 feet	8 oz
Tomatoes, plants	3,000
Wheat, in drills	1½ bu
Wheat, broadcast	2 bu

Government Map, Showing Percentage Increase of Population—1900 to 1910



POPULATION PER SQUARE MILE BY STATES, 1910, 1900 AND 1890

State.	Population Per Square Mile. 1910.	1900.	1890.
Continental United States	30.9	25.6	21.2
Rhode Island	508.5	400.7	323.8
Massachusetts	418.8	349.0	278.5
New Jersey	337.7	250.7	192.3
Connecticut	231.3	188.5	154.8
New York	191.2	152.5	126.0
Pennsylvania	171.0	140.6	117.3
Maryland	130.3	119.5	104.9
Ohio	117.0	102.1	90.1
Delaware	103.0	94.0	85.8
Illinois	100.7	86.1	68.3
Indiana	75.3	70.1	61.1
Kentucky	57.0	53.4	46.3
Tennessee	52.4	48.5	42.4
Virginia	51.2	46.1	41.1
West Virginia	50.8	40.0	31.5
South Carolina	49.7	44.0	37.8
Michigan	48.9	42.1	36.4
Missouri	47.9	45.2	39.0
New Hampshire	47.7	45.6	41.7
North Carolina	45.3	38.9	33.2
Georgia	44.4	37.7	31.3
Wisconsin	42.2	37.4	30.7
Alabama	41.7	35.7	29.5
Iowa	40.0	40.2	34.4
Vermont	39.0	37.7	36.4
Mississippi	38.8	33.5	27.8
Louisiana	36.5	30.4	24.6
Arkansas	30.0	25.0	21.5
Minnesota	25.7	21.7	16.2
Maine	24.8	23.2	22.1
Oklahoma	23.9	11.4	3.7
Kansas	20.7	18.0	17.5
Washington	17.1	7.8	5.3
Nebraska	15.5	13.9	13.8
California	15.2	9.5	7.8
Texas	14.8	11.6	8.5
Florida	13.7	9.6	7.1
North Dakota	8.2	4.6	2.7
Colorado	7.7	5.2	4.0
South Dakota	7.6	5.2	4.5
Oregon	7.0	4.3	3.3
Utah	4.5	3.4	2.6
Idaho	3.9	1.9	1.1
New Mexico	2.7	1.6	1.3
Montana	2.6	1.7	1.0
Arizona	1.8	1.1	0.8
Wyoming	1.5	1.0	0.6
Nevada	0.7	0.4	0.4
District of Columbia	5,517.8	4,645.3	3,839.9

Population of the United States, 1910.

The Thirteenth Census of the United States was taken by the Bureau of the Census as of April 15, 1910. The total area enumerated includes continental United States, the territories of Alaska and Hawaii, and Porto Rico. The enumeration also includes persons stationed abroad in the military and naval service of the government, who were specially enumerated through the co-operation of the War and Navy Departments.

Herewith is complete population statement for the area enumerated in 1910, distinguishing continental United States, Alaska, Hawaii, Porto Rico, and military and naval. The last four classes are grouped together under the head of "Noncontiguous territory." The corresponding figures of the Twelfth Census of 1900 are also given for purposes of comparison.

Population of the United States—Total Area of Enumeration, Continental United States, and Noncontiguous Territory: 1910 and 1900.

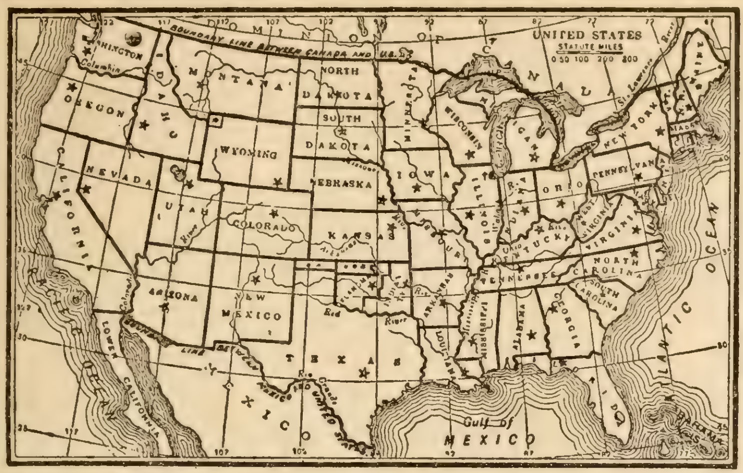
	1910.	1900.
The United States (total area of enumeration)	93,402,151	a77,256,630
Continental United States	91,972,266	75,994,575
Noncontiguous territory	1,429,885	1,262,055
Alaska	64,356	63,592
Hawaii	191,909	154,001
Porto Rico	1,118,012	b953,243
Persons in military and naval service stationed abroad	55,608	91,219

a—Includes 953,243 persons enumerated in Porto Rico in 1899.

b—According to the census of Porto Rico taken in 1899 under the direction of the War Department.

The rate of increase from 1900 to 1910 was 20.9 per cent for the total area of enumeration and 21 per cent for continental United States. It will be noted that Table I does not cover other possessions of the United States than the ones mentioned. Including the population of Philippine Islands as enumerated by the census of 1903 under the direction of the War Department, 7,635,426, and adding estimates for the islands of Guam and Samoa and the Canal Zone, the total population of the United States and possessions is about 101,100,000.

The United States from the Atlantic to the Pacific Ocean



States and Territories. Forty-eight states. The population of the United States including all the territories is about 101,055,723. Oklahoma Territory and Indian Territory in 1907 became one state, named Oklahoma. Area of the states, 3,616,484 square miles.

Length and Breadth. The greatest length of the territory from the Atlantic to the Pacific Ocean, occupied by the United States, on the parallel of 42°, is 2,768 miles; and its greatest breadth, from Point Isabel, Tex., to the northern boundary of North Dakota, is 1,650 miles. The Mexican boundary line is 1,500 miles in length. The boundary line separating the United States from the British possessions is about 3,400 miles long.

The star in the upper northwest corner of Wyoming indicates the location of Yellowstone Park.

Map of the States and Territories. When States Were Settled, Areas, Capitals, Etc., Up to Date, 1912. Stars on Map Indicate Location of State Capitals.

States and Territories.	Year Settled.	Admitted to the Union.	Area in Sq. Miles.	Population, 1910.	No. to Sq. Mile.	Capital of the State.	Population of the Capital.	Electoral Vote.	Governor. Term, Years.	Governor. Salary.	Legislature. Session Begins.	Legislature. Days Limit.
Alabama	1702	1819	52,250	2,138,093	41.7	Montgomery	38,136	12	4	$5,000	Jan.	‡50
Alaska	1801	1868	577,390	64,356	1	Juneau	2,000		4	5,000		
Arizona	1540	1863	113,020	204,534	1.8	Phoenix	11,143	3	4	3,000	Jan.	*60
Arkansas	1685	1836	53,850	1,574,449	30.0	Little Rock	45,941	9		3,500	Jan.	*60
California	1769	1850	158,360	2,377,549	15.2	Sacramento	44,696	13	4	6,000	Jan.	†60
Colorado	1858	1876	103,925	799,024	7.7	Denver	213,381	6	2	5,000	Jan.	*90
Connecticut	1633	1788	4,990	1,114,756	231.3	Hartford	98,915	7	2	4,000	Jan.	†None
Delaware	1627	1787	2,050	202,322	103.0	Dover	3,720	3	4	2,000	Jan.	†None
Dist. Columbia	1634	1790	70	331,069	5,517.8	Washington	331,069					
Florida	1565	1845	58,680	752,615	13.7	Tallahassee	5,018	6	4	5,000	Apr.	*60
Georgia	1733	1788	59,475	2,609,121	44.4	Atlanta	154,839	14	2	5,000	Nov.	*50
Guam Colony		1898	150	11,378		Agana						
Hawaii		1900	6,740	191,909	23.9	Honolulu	39,306		4	5,000	Feb.	
Idaho	1811	1890	84,800	*325,594	*3.9	Boise City	17,358	4	2	5,000	Dec.	*60
Illinois	1720	1818	56,650	5,638,591	100.7	Springfield	51,678	29	4	12,000	Jan.	*None
Indiana	1730	1816	36,350	2,700,876	75.3	Indianapolis	233,650	15	4	8,000	Jan.	*60
Iowa	1788	1845	56,025	2,224,771	40.0	Des Moines	86,368	13	2	6,500	Jan.	*None
Kansas	1831	1861	82,080	1,690,949	20.7	Topeka	43,684	10	2	5,000	Jan.	*40
Kentucky	1765	1792	40,400	2,289,905	57.0	Frankfort	10,465	13	4	6,500	Dec.	*60
Louisiana	1690	1812	48,720	1,656,388	36.5	Baton Rouge	14,897	10	4	5,000	May	*60
Maine	1620	1820	33,040	742,371	24.8	Augusta	13,211	6	2	3,000	Jan.	*None
Maryland	1634	1788	12,210	1,295,346	130.3	Annapolis	8,609	8	4	4,500	Jan.	*90
Massachusetts	1620	1788	8,315	3,366,416	418.8	Boston	670,585	18	1	8,000	Jan.	†None
Michigan	1670	1837	58,915	2,810,173	48.9	Lansing	31,229	15	2	4,000	Jan.	*None
Minnesota	1805	1858	83,365	2,075,708	25.7	St. Paul	214,744	12	2	7,500	Jan.	*90
Mississippi	1716	1817	46,810	1,797,114	38.8	Jackson	21,262	10	4	4,500	Jan.	*60
Missouri	1764	1821	69,415	3,293,335	47.9	Jefferson City	11,850	18	4	5,000	Jan.	*70
Montana	1809	1889	146,080	376,053	2.6	Helena	12,515	4	4	5,000	Jan.	*60
Nebraska	1847	1867	77,510	1,192,214	15.5	Lincoln	43,973	8	2	2,500	Jan.	*60
Nevada	1850	1864	110,700	81,875	7	Carson City	2,466	3	4	4,000	Jan.	*60
New Hampshire	1623	1788	9,305	430,752	47.7	Concord	21,497	4	2	2,000	Jan.	*None
New Jersey	1620	1787	7,815	2,537,167	337.7	Trenton	96,815	14	3	10,000	Jan.	†None
New Mexico	1537	1850	122,580	327,301	2.7	Santa Fe	5,072	3	4	3,000	Jan.	*60
New York	1614	1788	49,170	9,113,614	191.2	Albany	100,253	45	2	10,000	Jan.	†None
North Carolina	1650	1785	52,250	2,206,287	45.3	Raleigh	19,218	12	4	4,000	Jan.	*60
North Dakota	1780	1889	70,795	577,056	8.2	Bismarck	5,443	5	2	3,000	Jan.	*60
Ohio	1788	1802	41,060	4,767,121	117.0	Columbus	181,511	24	2	10,000	Jan.	*None
Oklahoma	1889	1907	70,430	1,657,155	23.9	Guthrie	11,654	10	4	4,500	Jan.	*160
Oregon	1810	1859	96,030	672,765	7.0	Salem	14,094	5	4	5,000	Jan.	*40
Pennsylvania	1682	1787	45,215	7,665,111	171.0	Harrisburg	64,186	38	4	10,000	Jan.	*None
Philippines	1570	1898	114,000	7,635,426		Manila	219,928			15,000	Jan.	
Porto Rico	1510	1898	3,600	1,118,012		San Juan	32,048		4	8,000	Apr.	*60
Rhode Island	1636	1790	1,250	542,610	508.5	Providence	224,326	5	1	3,000	Jan.	†None
South Carolina	1670	1788	30,570	1,515,400	49.7	Columbia	26,319	9	2	3,500	Nov.	†None
South Dakota	1856	1889	77,650	583,888	7.6	Pierre	3,656	5	2	3,000	Jan.	*60
Tennessee	1757	1796	42,050	2,184,789	52.4	Nashville	110,364	12	2	7,500	Jan.	*75
Texas	1686	1845	265,780	3,896,542	14.8	Austin	29,860	20	2	4,000	Jan.	*60
Utah	1847	1896	84,970	373,351	4.5	Salt Lake City	92,777	4	4	4,000	Jan.	*60
Vermont	1764	1791	9,565	355,956	39.0	Montpelier	7,856	4	2	2,500	Oct.	*None
Virginia	1607	1788	42,450	2,061,612	51.2	Richmond	86,514	12	4	5,000	Jan.	*60
Washington	1811	1889	69,180	1,141,990	17.1	Olympia	6,996	7	4	6,000	Jan.	*60
West Virginia	1862	1862	24,780	1,221,119	50.8	Charleston	11,099	8	4	5,000	Mar.	*45
Wisconsin	1669	1848	56,040	2,333,860	42.2	Madison	25,531	13	2	5,000	Jan.	*None
Wyoming	1858	1890	97,890	145,965	1.5	Cheyenne	11,320	3	4	4,000	Jan.	*40
				101,055,723								

*Biennially. †Annually. ‡Meet once in 4 years.

By Congressional apportionment, made Aug. 3, 1911, the membership of the House of Representatives at Washington will be 435. Adding 2 votes for 2 senators from each state will make the total 531. By later enactment this apportionment is liable to be changed.

"BACK TO THE LAND"

"Back to the land is the cry today, back to the dear old farm;
To the fields and the brook and the winding lane; back to their sylvan charm.
Back to the little attic room, which in boyhood days you knew,
When the raindrops pattered upon the roof, and sometimes pattered through."

AGRICULTURE

The Development of Agricultural Industry Since the Days of Abraham and Moses on the Banks of the Nile in Egypt

In order to supply the human family with food the art of planting and stirring the soil for production of food came into existence, along with the invention of numerous implements of husbandry designed to aid in the cultivation and production of various grains, vegetables, and fruits.

Gradually, through long ages the change from the state of nature, in which the human family must have lived, has been evolved.

The early account of agriculture relates to the countries bordering on the Mediterranean Sea. Here the different soils watered by the Euphrates, the Tigris, and the Nile taught the inhabitants the difference in fertility, the valley lands being rich in vegetable production while the hilly countries were better adapted to grazing.

The enrichment of land from overflow once a year on the eight-mile strip of land which borders the River Nile laid the foundation for much of the wealth of Egypt.

The annual several-weeks' overflow extending into the months of August, September, and October, taught the Egyptians the value of fertilization through the manurial deposits left on the land.

From Egypt a **knowledge of agriculture** extended into Greece, where it flourished a thousand years before Christ. Here the art was carried to a high degree of perfection.

The Greeks had fine breeds of cattle, horses, sheep, and swine and importations were made from foreign countries for the purpose of improving the stock.

The use and value of manures were well known to the Greeks, and the importance of thorough tillage was well understood.

From Greece a superior agriculture extended into Rome, where a century previous to the Christian Era they had an agricultural literature, which surpassed that of any other country on the globe at that time.

But gradually through wars and as a result of the country being overrun by races who knew little of scientific cultivation of the soil, agriculture in the Roman Empire declined, but not until the Romans had carried their knowledge of agriculture to the Britons, where it has flourished, with varying success, up to the present time.

The first English treatise on husbandry was published in 1534. This work was entitled "The Book of Husbandry," and contains directions for draining, clearing and enclosing a farm; for enriching the soil and rendering it fit for tillage, lime, marl, and fallowing being highly recommended.

During Queen Elizabeth's regin appeared Tusser's "Five Hundred Points of Good Husbandry," published in 1580. This work contained a great deal of useful information.

About 1645 the field cultivation of red clover was introduced into England, the interest taken in that grass, we may suppose, being similar to that experienced at the present time on the subject of alfalfa in the United States.

The Dutch having devoted much attention to the improvement of winter roots, and also to the cultivation of clover and other artificial grasses, the farmers and landed proprietors of England soon saw the advantages to be derived from their introduction.

Potatoes were introduced during the latter part of the sixteenth century, but were slow in coming into general cultivation.

Robert Bakewell and others effected some important improvements, in the eighteenth century, in the breeds of cattle, sheep, and swine. By the end of the century it was a common practice to alternate green crops with grain crops, instead of exhausting the land with a number of successive crops of any one kind of grain.

The wars caused by the French Revolution, 1795-1814, called so many men from the fields and so lessened production as to cause a great increase in price of farm products. This resulted in an extraordinary improvement in methods of agriculture.

In like manner the great increase in price of food products in the United States, at the present time, will so stimulate improvement in cultivation of the soil as will result in great advance in agriculture throughout this country in the near future.

While agricultural art is well advanced in Europe the conditions are particularly very favorable in the United States.

The vast territory here presents every variety of soil and climate. Its agriculture embraces all the products of European cultivation, together with some of those of the warmer countries—as cotton, sugar, and indigo.

This country exceeds all other nations in wonderful adaptation of machinery for all purposes of cultivation and harvesting of crops.

The disposition of the American to experiment, to test alleged improvements, to adopt labor-saving devices and expedients, gives a

Improvement Being Made by Agricultural Societies

great impulse to the genius of inventors. This mental activity of the local farmers is owing, in great measure, to his superior intelligence.

The American reaper was invented by McCormick in 1834; by many improvements it has secured the European as well as the home market. In 1855 the first American Agricultural College was established. In 1862 the passage of the Homestead Law served to hasten the occupation of public land.

The dairy system based on the principle of association has advanced rapidly. Agricultural societies, both state and county, are established in all parts of the United States for the following objects:

To encourage the introduction of improvements in agriculture.

To secure improved agricultural implements and farm buildings.

To foster the application of chemical knowledge to agriculture.

To forward the destruction of insects injurious to vegetation.

To promote the discovery and adaptation of new varieties of grain or vegetables.

To collect information regarding the management of timber lands and plantations.

To improve the education of those supported by the cultivation of the soil.

To advance the veterinary arts and science.

To improve the breeds of all the domestic animals.

Fairs are held at which prizes are distributed for live stock, implements, and farm produce.

Through efforts of the above-mentioned societies, the investigations of scientific men, and the general diffusion of knowledge among all classes, by means of several hundred periodicals devoted to its interests, agriculture has made great progress during the past century.

Among the improvements we may mention deep plowing and thorough drainage; with the introduction of new and improved agricultural implements, by which heavy farm labor has been greatly diminished.

Science also has been called in to act as the handmaid of agricultural art, and, aided by the chemist and the entomologist, agriculture has been put on a really scientific basis.

The organization of plants, the primary elements of which they are composed, the food on which they live and thrive, and the constituents of soils, have all been investigated and most important results obtained, particularly in regard to manures and rotation of crops.

Artificial manures in great variety to supply the elements needed for plant growth have come into common use, not only increasing the produce of land previously cultivated, but extending the limits of cultivation itself.

An improvement in all kinds of stock is becoming more and more general, feeding of domestic animals is conducted on more scientific principles, and improved varieties of plants used in field crops have been introduced. As a result of the new conditions, to be a thoroughly trained and competent agriculturist, requires a special education, partly theoretical and partly practical.

In particular, no scientific cultivator can now be ignorant of agricultural chemistry, which teaches the constituents of the various plants grown as crops, their relation to the several soils and the nature and function of different manures.

Nearly all the States have colleges or departments of colleges devoted to the teaching of agriculture and large allotments of public land have been made for their support.

In the United States the Department of Agriculture was organized in 1862, the secretary of which is now a cabinet officer. Through the enterprise and efforts of this department of the government, experiment is constantly going forward at the different experiment stations, the results of which are published in bulletins by the government and sent broadcast throughout the country.

At this writing the government, aided by public-spirited agriculturists, is putting forth special effort in the introduction of a new grass plant known as alfalfa, the merit, growth and cultivation of which we explain elsewhere. Other plants and improved features of agricultural industry will be developed from time to time.

It is impossible to forecast the great future of agriculture in the United States. To partially imagine it we need only go back in memory a short time to the period of the ox-cart, now supplanted by electricity; to the short time ago when the land, now yielding forty and fifty bushels of grain to the acre, gave us only eight and ten bushels.

Today the farmer is just beginning to realize some of the profits of his vocation. Many of his fowls each give 200 eggs a year; he is making use of the reaper, the milking machine, the riding-cultivator, and the auto that goes to the market town to deliver in an hour the same bulk which would have formerly consumed the time of the farmer one whole day to transport.

As we have advanced in the past, so will agricultural art progress in the future. This great advancement will largely come from the thousands of students now in the agricultural colleges, from the pupils that have graduated from the schools in domestic science, and from the knowledge that will be disseminated through the wonderful multiplicity of agricultural instruction that will come from handbooks distributed in the schools.

More People Must Engage in Cultivating the Soil

Temporary Discouragement from Time to Time

Encouraging as seem the prospects for the future of agriculture in the United States there come times when the balance between production and consumption of food is disturbed. Such have been the conditions in recent years when the prices of food were excessive through scarcity of agricultural products. The cause for this is told in the following reasons:

Cause for Advancing Prices of Foodstuffs

1. Millions of immigrants coming into the United States, the majority of whom settle in the cities. There they consume but they do not produce food.
2. Sale of government lands and fencing of the same by private parties, resulting in increased expense for pasturage which is charged to consumers.
3. Universal killing of calves by farmers and selling to butchers for veal, making shortage of beef cattle, milk, and butter.
4. Great numbers of graduates from educational institutions into professions, all of whom consume, but do not produce food.
5. Multitudes of people traveling the country in automobiles, consuming, but not growing farm products.
6. Great multitudes of people at pleasure resorts—liberal consumers who never produce a pound of food.
7. Merchants, clerks, policemen, firemen, government officials, hundreds of thousands—all eating, not one cultivating the soil.
8. The public institutions, including asylums, jails, bridewells, State prisons—all filled—all consuming food, increasing its price. Nobody producing.

Must Get Back To Land

It is plainly evident there is but one remedy for this lack of balance which makes consumption so much in excess of production of foodstuffs.

More people must engage in cultivating the soil. The excess portion of the population now congested in the cities must get back to the land.

The vacant government lands should be occupied. There are millions of acres of these free lands, waiting for settlers.

Where are they?

See the following list of States and the amount of vacant acres yet unappropriated for cultivation.

Much information about land for new settlers may be obtained from reading the following:

VACANT PUBLIC LANDS IN THE UNITED STATES

Statement, by States, Territories, land districts, and counties, showing the area of land unappropriated and unreserved on July 1, 1912. Area unappropriated and unreserved.

State or Territory.	Surveyed. Acres.	Unsurveyed. Acres.	Total. Acres.
Alabama	93,040	1,600	94,640
Alaska	....	*368,010,643	368,010,643
Arizona	12,003,186	28,592,537	40,595,723
Arkansas	436,210	82,000	518,210
California	17,671,839	5,343,499	23,015,338
Colorado	17,684,401	1,564,797	19,249,198
Florida	240,408	155,531	396,439
Idaho	7,172,856	11,757,537	18,970,393
Kansas	91,328	....	91,328
Louisiana	69,198	....	69,198
Michigan	92,544	....	92,544
Minnesota	1,525,775	....	1,525,775
Mississippi	52,400	....	52,400
Missouri	1,197	....	1,197
Montana	13,697,086	15,356,909	29,053,995
Nebraska	832,750	....	832,750
Nevada	28,844,824	26,230,679	55,075,503
New Mexico	22,241,833	11,329,650	33,571,483
North Dakota	1,354,571	....	1,354,571
Oklahoma	39,525	....	39,525
Oregon	13,141,921	3,346,148	16,888,069
South Dakota	4,039,892	81,920	4,121,812
Utah	12,011,921	22,037,256	34,049,177
Washington	1,106,783	761,306	1,868,089
Wisconsin	11,520	....	11,520
Wyoming	30,905,022	2,570,720	33,475,742
Grand total	185,362,030	497,622,732	682,984,762

*The unreserved lands in Alaska are mostly unsurveyed and unappropriated.

As change in amount of unappropriated land is liable to continually occur, land seekers should apply to the Land Office for specific information about land in localities where they may wish to go.

PARTICULARS AT LOCAL LAND OFFICE

No specific descriptions of the character of the land, climate, water, or timber can be given by the General Land Office.

Unoccupied public lands, subject to settlement and entry, are to be found in all the States and Territories west of the Mississippi River, except Iowa and Texas. There is also considerable vacant public land in the States of Michigan, Florida, Alabama, and Mississippi.

Persons who desire to make homestead entry should first decide **where** they wish to locate, then go or write to the local land office of the district in which the lands are situated, and obtain from the records diagrams of vacant lands.

A personal inspection of the lands should be made to ascertain if they are suitable, and, when satisfied on this point, **entry can be made** at the local land office in the manner prescribed by law, under the direction of the local land officers, who will give the applicant full information. Should a person desire to obtain information in regard to vacant lands in any district before going there for personal inspection, he **should address** the register and receiver of that particular local land office, who will give such information as is available.

Seeking Location for Permanent Home

If desirous of settling upon government land, he has learned herewith where government land may yet be found and the particulars about any which he wishes to investigate he will get from the land office.

General Directions for Procuring Government Land

LIST OF UNITED STATES LAND OFFICES

The General Land Office does not issue maps showing the location of vacant public land subject to entry. This information can be reliably obtained only from the records of the various district land offices, which are located as follows:

ALABAMA:
Montgomery.

ALASKA:
Fairbanks.
Juneau.
Nome.

ARIZONA:
Phoenix.

ARKANSAS:
Camden.
Harrison.
Little Rock.

CALIFORNIA:
Eureka.
Independence.
Los Angeles.
Sacramento.
San Francisco.
Susanville.
Visalia.

COLORADO:
Del Norte.
Denver.
Durango.
Glenwood Springs.
Hugo.
Lamar.
Leadville.
Montrose.
Pueblo.
Sterling.

FLORIDA:
Gainesville.

IDAHO:
Blackfoot.
Boise.
Coeur d'Alene.
Hailey.
Lewiston.

KANSAS:
Dodge City.
Topeka.

LOUISIANA:
Baton Rouge.

MICHIGAN:
Marquette.

MINNESOTA:
Cass Lake.
Crookston.
Duluth.

MISSISSIPPI:
Jackson.

MISSOURI:
Springfield.

MONTANA:
Billings.
Bozeman.
Glasgow.
Great Falls.
Havre.
Helena.
Kalispell.
Lewistown.
Miles City.
Missoula.

NEBRASKA:
Alliance.
Broken Bow.
Lincoln.
North Platte.
O'Neill.
Valentine.

NEVADA:
Carson City.

NEW MEXICO:
Clayton.
Fort Sumner.
Las Cruces.
Roswell.
Santa Fe.
Tucumcari.

NORTH DAKOTA:
Bismarck.
Devils Lake.
Dickinson.
Fargo.
Minot.
Williston.

OKLAHOMA:
Guthrie.
Woodward.

OREGON:
Burns.
La Grande.
Lakeview.
Portland.
Roseburg.
The Dalles.
Vale.

SOUTH DAKOTA:
Bellefourche.
Gregory.
Lemmon.
Pierre.
Rapid City.
Timber Lake.

UTAH:
Salt Lake City.
Vernal.

WASHINGTON:
North Yakima.
Olympia.
Seattle.
Spokane.
Vancouver.
Walla Walla.
Waterville.

WISCONSIN:
Wausau.

WYOMING:
Buffalo.
Cheyenne.
Douglas.
Evanston.
Lander.
Sundance.

Directory of Agricultural Experiment Stations in the United States

State.	Postoffice Address.
Alabama	Auburn (1)
Alabama	Uniontown (2)
Alabama	Tuskegee (3)
Alaska	Fairbanks
Alaska	Kodiak
Alaska	Rampart
Alaska	Sitka
Arizona	Tucson
Arkansas	Fayetteville
California	Berkeley
Colorado	Fort Collins
Connecticut	New Haven (4)
Connecticut	Storrs (5)
Delaware	Newark
Florida	Lake City
Georgia	Experiment
Idaho	Moscow
Illinois	Urbana
Indiana	Lafayette
Iowa	Ames
Kansas	Manhattan
Kentucky	Lexington
Louisiana	Baton Rouge (6)
Louisiana	New Orleans (7)
Louisiana	Calhoun (8)
Maine	Orono
Maryland	College Park
Massachusetts	Amherst
Michigan	Agricultural College
Minnesota	St. Anthony Park
Mississippi	Agricultural College
Missouri	Columbia
Missouri	Mountain Grove (9)
Montana	Bozeman
Nebraska	Lincoln
Nevada	Reno
New Hampshire	Durham
New Jersey	New Brunswick (10)
New Jersey	New Brunswick (11)
New Mexico	Mesilla Park
New York	Geneva (12)
New York	Ithaca (13)
North Carolina	Raleigh
North Dakota	Fargo
Ohio	Wooster
Oklahoma	Stillwater
Oregon	Corvallis
Pennsylvania	State College
Rhode Island	Kingston
South Carolina	Clemson College
South Dakota	Brookings
Tennessee	Knoxville
Texas	College Station
Utah	Logan
Vermont	Burlington
Virginia	Blacksburg
Washington	Pullman
West Virginia	Morgantown
Wisconsin	Madison
Wyoming	Laramie

(1) College Station.
(2) Canebrake Station.
(3) Tuskegee Station.
(4) State Station.
(5) Storrs Station.
(6) State Station.
(7) Sugar Station.
(8) North Station.
(9) Fruit Station.
(10) State Station.
(11) College Station.
(12) State Station.
(13) Cornell Station.

U. S. Ten-Year Average Prices and Yield Per Acre for Certain Crops

	Wheat		Buckwheat		Potatoes		Hay		Corn		Oats		Rye	
	Yield bu.	Price cents	Yield bu.	Price cents	Yield bu.	Price cents	Yield tons	Price $	Yield bu.	Price cents	Yield bu.	Price cents	Yield bu.	Price cents
1903	12.9	69.5	17.7	60.7	84.7	61.4	1.54	9.08	25.5	42.5	28.4	34.1	15.4	54.5
1904	12.5	92.4	18.9	62.2	110.4	45.3	1.52	8.72	26.8	41.1	32.1	32.3	15.2	68.8
1905	14.5	74.8	19.2	58.7	87.0	61.7	1.54	8.52	28.8	41.2	34.0	29.1	16.5	61.1
1906	15.5	66.7	18.6	59.6	102.2	51.1	1.35	10.37	30.3	39.9	30.2	31.7	16.7	58.9
1907	14.0	87.4	17.9	69.8	95.4	61.8	1.45	11.68	25.9	51.6	23.7	44.3	16.4	73.1
1908	14.0	92.8	19.8	75.6	85.7	70.6	1.52	8.98	26.2	60.6	25.0	47.2	16.4	73.6
1909	15.8	99.0	20.9	69.9	106.8	54.9	1.42	10.62	25.5	59.6	30.3	40.5	16.1	73.9
1910	13.9	88.3	20.9	66.1	94.4	55.7	1.33	12.26	27.7	48.0	31.6	34.4	16.0	71.5
1911	12.5	87.4	21.1	72.6	80.9	79.9	1.10	14.29	23.9	61.8	24.4	45.0	15.6	83.2
1912	15.9		22.9		113.4		1.47	11.79	29.2		37.4		16.8	
Average	14.15	*84.25	19.79	*66.13	96.09	*60.27	1.42	10.63	26.98	*49.58	29.71	*40.92	16.11	*68.73

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*Price average for nine years. Compiled from the year books of the U. S. Department of Agriculture.

Benefits of Small Farms

The Island of Jersey, situated in the English Channel, eleven miles long and less than six miles wide, nourishes a population of about two persons to the acre, or 1,300 inhabitants to the square mile.

Compare this density of population with old, thickly-settled Massachusetts, settled in 1620, having 418 persons to the square mile; with Rhode Island, having 508½ persons to the square mile; with California and its delightful climate but having a population of only 15.2 inhabitants to the mile; and Wyoming with 1½ inhabitants to the square mile.

The density of population and capacity for supporting a dense population on small area of land in the old countries is largely the result of fertilization and intensive cultivation, the increased crop output coming from restricted area of farm land compelling better cultivation.

It is readily seen in this what an immense increase of foodstuff would be produced if all land were made to do its best by manuring and cultivation.

To Stop Land Monopoly

Various plans have been suggested for reducing the size of farms and increasing the size of crops. Among these is Single Tax.

Henry George, in a visit to Europe, had his attention called to the vast inequality of land ownership. For the purpose of breaking up the enormous monopolies of land which he found there, he devised the system of Single Tax, which various regions of the world are beginning to adopt. That system proposes that the tax on all land shall be five per cent on its rental value.

That is, for any tract of land which upon being sold and the money coming from the sale placed at interest would yield a certain sum at five per cent interest, that that amount of interest should represent the amount of tax which the land owner should pay.

Thus, the individual who owns a tract of land, say 100 acres adjoining a town, the land not in cultivation, yet worth $300 an acre, as other land around it sells;

That the owner of that 100 acres can any minute sell that property for $30,000, which placed at interest at 5 per cent would yield in interest the sum of $1,500.

Yet the owner of the 100 acres will not sell. He is holding his land from sale expecting as the town grows in population to get $1,000 per acre. The single tax advocate looks up the tax on that 100 acres and finds that the owner pays a very light tax, whereas it is clearly a property worth $30,000 and may pay its 5 per cent tax which would be $1,500 annually.

The single taxer claims that this tax, entirely reasonable, would induce the owner to sell such tract of land in small parcels and thus the monopoly of that land would be broken.

Vacant City Lot Cultivation

Some years since an association was formed in Philadelphia for the purpose of utilizing the vacant lots throughout that city.

In a report of the work of the association we find the following:

First: That many people out of employment must have help of some kind;

Second: That a great majority of them prefer self-help and many will take no other. Nearly all are able and willing to improve any opportunities open to them;

Third: That to open opportunities to them does not pauperize or degrade, but has the opposite effect of elevating and ennobling. It quickly establishes self-respect and self-confidence. The best and most effectual way of helping people in need is to open a way whereby they may help themselves. The most effective charity is to give opportunity accompanied with kindly and a personal interest in those less fortunate than ourselves.

Benefit of Vacant Garden Associations

Among the benefits resulting from vacant garden associations which have been established in various eastern cities in the last few years are:

Help extended to many families in need; they have taught the inexperienced how to get a living from the soil and in the hundreds of garden plots that have been cultivated they have demonstrated what can be grown on various sized parcels of land.

To illustrate: "An area of 150x100, about two-fifths of an acre, is generally sufficient to supply a family of five persons with vegetables, not considering the winter supply of potatoes; but the acres must be well tilled and handled," according to Bailey in "Principles of Vegetable Gardening."

The Product of an Acre

One farm in the Sacramento Valley, California, consists of one single acre of irrigated land and gives a better home and larger net income for its owner than many of his neighbors enjoy on places of thousands of acres each. The little farm is at Orland, in Glenn County, and is the property of Samuel Cleeks, who has grown old tilling it for the past thirty years.

Mr. Cleeks makes a comfortable living from this one acre and is able to save an average of $400 a year besides. He has money to loan, if not to burn, as well as fruit, vegetables, and poultry products to sell to those who are getting poorer every year in carrying big farms without irrigation. Here is a list of

What the Place Contains

Barn and corral space, 75x75 feet; rabbit hutch, 25x25 feet; house and porches, 30x30 feet; two windmill towers, 16x16 feet each; garden, 46x94 feet; blackberries, 65x90 feet; citrus nursery, 90x98 feet, in which there are 23,000 trees budded; one row of dewberries, 100 feet long; 4 apricot; 2 oak trees; 3 peach trees; 6 fig trees; 10 locust trees; 30 assorted roses; 20 assorted geraniums; 12 lemon trees, bearing, which are seven years old; lime tree, nine years old and bearing, from which were sold last year 160 dozen limes; 8 bearing orange trees; 4 bread-fruit trees; 5 pomegranate trees; one patch of bamboo; 3 calla lillies; 4 prune trees; 3 blue gum trees; 6 cypress trees; 4 grape vines; 1 English ivy; 2 honeysuckle; 1 seed bed; one violet bed; 1 sage bed; 2 tomato vines; 13 stands of bees. (Wm. E. Smythe in Maxwell's Talisman.

California is not the only place in the United States where a man can live on one acre of ground, by intensive culture and with irrigation. The Eastern and Middle States can present just as good if not better, opportunities especially where land in small tracts is available near large cities.

At Hyde Park, a little village three miles north of Reading, Pa., there is a small farm owned by Oliver R. Shearer, who may be said to be one of the most successful farmers in the United States. This farm contains 3 1/3 acres, only 2½ of which are cultivated, but they yield the owner annually from $1,200 to $1,500. From profits of his intensive farming Mr. Shearer has paid $3,800 for his property, which, besides the land, consists of a modern two-story brick house with barn, chicken yard, and orchard, the whole surrounded by a neat fence. He has also raised and educated a family of three children.

There are no secrets, Mr. Shearer says about his method of farming. A study of conditions, the application of common-sense methods and untiring energy, he asserts, will enable any farmer to do what he has done.

Amount of Fruit Grown on an Acre

And Average Price at Which It Will Sell.

Blackberries, 10,000 qts. at 7c a qt.	$700
Dewberries, 9,000 qts. at 7c a qt.	630
Gooseberries, 250 bu. at $2.00 a bu.	500
Strawberries 8,000 qts. at 5c a qt.	400
Currants, 3,000 plants yield 6,000 bu.	200
Raspberries, per acre	$200 to 600
Peaches, per acre	200 to 400
Apples, per acre	100 to 500
Grapes	100

Profits from an Acre of Vegetables

Asparagus, 3,000 bunches at 20c per bunch	$600
Cauliflower, 100 to 300 bbls. at $1.50	450
Onions, 600 bu. at 75c per bu.	450
Cabbage Seed, 1,000 lbs. at 40c lb.	400
Brussels Sprouts, 3,000 qts. at 10c per qt.	300
Celery, 6,000 bunches at 5c per bunch	300
Lettuce, 9,000 heads at 3c a head	270
Lima Beans, 50 bu. at $5.00 a bu.	250

THE VEGETABLE GARDEN

How to Prepare Soil, Plant, and Fertilize

COMPILED FROM PUBLICATIONS OF PETER HENDERSON

Author of many books on Agriculture and Horticulture

Location of vegetable garden.—Where a choice can be made, the ground selected for the growing of vegetables should be level; if any slope, it should be smooth and toward the South. If the garden is protected from the North and Northwest winds by either a hill, a tree wind-break, a high board fence or wall, it will greatly facilitate earliness in producing crops.

Selection of suitable soil.—This is a most important factor in the growing of vegetable crops. A sandy loam, at least a foot deep, with plenty of humus incorporated, overlying a gravelly or sandy subsoil through which surplus water readily filters, is the ideal for most vegetables, especially for early crops. The soil should be "quick," that is it should warm up early in the spring, and quickly get into working condition after rains. Should the subsoil be clay, then under-drainage, or at least subsoil plowing is essential. For late crops, especially for late peas, beans, cabbage and celery, a cooler soil is desirable, such as a well-drained clayey loam of friable texture. **Hard clay is to be avoided** always; it is cold, late, and hard to work, either wet or dry; plants start slowly and grow poorly in it. The physical condition of garden soil is considered of more importance every year, as better understood. Even the question of fertilizing is less vital to the production of bountiful crops, for if the physical texture is not suitable the effect of fertilizers is lost. The elementary principles are these: Originally soil was, and in rare localities still is, **purely disintegrated rock,** a chemical analysis of which might indicate an abundance of all of the essentials of plant food structure. Yet these constituents are so locked up in an insoluble form that but few plants, excepting lichens and the like, can extract the nutriment requisite for their growth. Slowly these rock particles are fined down by frost, rain and the other varied processes of nature, and gradually accumulate and become associated with animal remains and decayed vegetable matter (humus), thus forming the organic matter of soils, which retains the soil moisture and holds in solution the dissolved **constituents of plant food,** and plants thrive (other conditions being congenial) in proportion to their supply of requisite foods held in solution, for the only way they can absorb their food is through their root hairs.

Effect of Humus in Fertilizing

Humus improves the texture of the soil by rendering it open and mellow and it also contains plant food. Should the soil be lacking in humus, then it must be incorporated by plowing under some growing crop, preferably clover or some leguminous crop, because they add nitrogen to the soil which they derive from the air. **Stable manure** assists in obtaining similar results. Aeration or Ventilation of the Soil is another essential condition to enable the millions of soil-germs (bacteria) in the soil to continue their work of converting the crude materials of manure and all organic matter into available plant food, for plants do not feed upon the raw fertilizers, etc., as they are put into the soil. **Soil ventilation** also enables the warm sunshine to more readily effect its share in the transformation taking place below the surface of the soil. Paradoxical as it may seem to the unthinking, yet one of the most serious problems of successful gardening is in supplying a continuous abundance of moisture to the growing plants, and yet allow sufficient air for the micro-organisms in the soil to thrive and surcharge the moisture with available plant food. **There must not be too much air,** nor too much water, but that happy balance which is most nearly obtained in a finely pulverized, mellow, sandy loam with an open subsoil.

Importance of Necessary Moisture

The Water-Storing Capacity of Soil is Dependent upon the Texture. The finer the texture of suitable loamy garden soil the greater will be the water-holding capacity, and the more uniformly will it be distributed. When rain saturates soil every individual atom of soil is enveloped with a film of moisture, and the smaller and more numerous the particles the more water is contained in a given space, on the same principle that a clay marble withdrawn from the water will be enveloped with a film of moisture equal to the marble's surface, but break the marble into a thousand pieces and the aggregate surface area would then be increased by about one hundred times; this illustrates the water-storing value of well-pulverized soil over coarse-grained soil.

Necessity of Proper Drainage

Drainage is very essential for many garden soils, especially those of clayey texture or having clay subsoils. Nature's Drains, namely gravelly or sandy subsoils, are the best, but when gardens are not situated over such, then we must resort to artificial drainage. For temporary purposes the land may be ridged, thus forming dead furrows, which act as surface drains, but these simply carry off the surface water and do not improve the texture of the soil like underdrainage, which makes the soil looser, more friable, and earlier. Clayey soils will **cement or puddle** when they remain wet for a long time and finally dry out hard and brick-like, whereas, if the surplus water is allowed to percolate through them and is drained off from below, cementing does not take place and the soil becomes friable, in which condition it retains the capillary **moisture necessary** for growing crops. Garden soil may be excellent in all respects and yet remain wet and "spongy," so that it is **impossible to work or plant it** until very late in the spring—in such cases it should be reclaimed by draining—the drains should be placed about 3 feet below the surface and in stiff, clay soil lateral drains should be about 18 feet apart—in lighter, more porous soils, 20 to 25 feet apart, and in exceptional locations and soils, 50 to 75 feet will answer.

Best Materials for Drains

Drains, of course, should have a clear outlet to allow unimpeded flow, and to secure this in some situations it may be necessary to connect the laterals with main drains, which should be placed somewhat deeper than the laterals; the positions of the mains depend entirely upon the lay of the land and the outlet to secure the necessary fall. The best and most effectual drains for a long term of years are those made with **drain tiles,** either the "sole" tile or the "horseshoe" pattern; the latter we prefer. We place this pattern of tile on narrow **hemlock boards at the bottom of the trench,** which prevents sagging where there may be a soft spot in the earth; a strip of sod, grass down, is then placed on the joints of the tile to prevent earth getting in and stopping the flow—the trench is then filled in. Cheaper drains are made by filling in the bottom of a 3-foot trench with about a foot of stones, placing the stones so they form a continuous conduit at the bottom; cover the stones first with straw, brush or sod before filling the trench with soil. Board drains are made by nailing 3 boards together thus △.

Plowing to Loosen Soil

Plowing.—The object of plowing is to pulverize the soil, and the character of the soil and the intended crop determines the depth. Under average conditions plow as deep as possible so long as the subsoil is not turned up, endeavor to deepen the soil, and if the subsoil is near the surface run a subsoil plow in the furrow of the turning plow.

How to Make Seed Grow

The subsoil plow does not turn a furrow, but, like a huge mole, it lifts and breaks the hard crust that forms under the ordinary plow, thus deepening the soil and allowing the roots to penetrate deeper, and rendering the crop less susceptible to drought. **Shallow plowing** is advisable in sandy, leachy soils, the object being to plow the same depth every year, so as to compact the undersoil and restrain leaching. **Fall plowing** improves the physical condition, especially of heavy, loamy soils; left rough, the lumps slack and break down through the action of winter weather. Such soils, however, should contain plenty of vegetable matter, grain or grass stubble, or be **covered with manure before plowing**, to prevent any tendency of the soil to puddle or run together. Light and sandy soils that dry out quickly in spring and are naturally early **do not need** to be plowed in the fall.

Rolling.—The object of rolling soil is to compact light soils—break up lumps and pulverize heavier soils—rolling brings capillary water to the surface, and to prevent loss of same by evaporation the ground should be gone over within a day or two after rolling with a harrow.

Success with Seeds

Seed Beds.—Finely pulverized mellow soil, continuously moist, and a congenial temperature are the essentials to success in germinating seeds. An even and continuous supply of capillary moisture to some extent regulates the soil temperature and this moisture—from the soil below—can be brought up to the seeds and soil surrounding them by merely **compacting the soil** over them with the foot, a plank or a roller; this, if properly done with mellow, dryish soil, brings the soil particles in contact and establishes the capillarity necessary to bring the moisture from the undersoil to the surface, thus hastening the germination of shallow-sown seeds that might otherwise "dry out."

Better Get Moisture from Below

When moisture from below can be secured it is better than surface watering from a watering pot or hose as they tend to cause the soil to crust over; of course, keeping seeds moist by capillarity is wasteful of the undersoil's stores of moisture, for it passes off into the air. So it is advisable, as soon as the seedlings are rooted and sturdy enough, to stir and loosen the surface soil about them, thus forming an "earth mulch" to check evaporation. Where large seeds, like beans, peas, etc., are sown deep, after the soil has been firmed over them, then the surface can be immediately loosened so there may be no undue loss of moisture.

Secret of Success in Dry Farming

Cultivation to Conserve Soil Moisture.—Many people imagine that as long as a garden crop is free from weeds it does not need to be cultivated, but nothing could be further from the fact; frequent cultivation, at least once in every ten days, is one of the most important factors in the successful growing of vegetable or other crops, and especially so in dry weather. Growing plants require an immense amount of moisture and for perfect and unchecked development must have it continuously. As rain falls irregularly, plants must depend for their supply during dry periods upon the reserve moisture stored in the soil below them, as we have described previously in this article, and it is only by frequent cultivation that we can prevent this reserve moisture from escaping by capillary conduction into the dry summer atmosphere.

Cultivate 3 inches deep.—If the capillary tubes—between the stores of moisture and the surface—are not kept disconnected in dry weather, the quantity of moisture, drawn forth as effectually as through a suction hose, by drying winds and air, will in a few days' time deplete the entire reserve store. The capillary rise of water to make good the evaporation from the surface sometimes equals a pound of water per square foot of soil a day. Therefore, one can realize the importance of checking this loss as soon as possible, which is effectually accomplished by cultivating the soil at least 3 inches deep, leaving the surface pulverized and open, thus forming an "Earth Mulch," and before the surface compacts again, allowing the suction tubes to be connected, the ground should be again cultivated. By using the hand-power wheel hoes and cultivators for small gardens, and the riding horse cultivators for market gardens, the work may be done cheaply, quickly and easily.

Manures and Fertilizers.—This is a large question and the limited space at our disposal only allows us to generalize. (Those interested should get a special book on the subject; "Fertilizers by Voorhees," one of the latest, is recommended.)

Some Plants Come from the Air

Plants are composed of many ingredients, some of which are **drawn from the air** and over which we have no control; but most of the materials for plant growth and structure are supplied through the soil, and we can, when necessary, supply the deficiency. Most of the plant-building constituents of the soil are therein stored in superabundance, and therefore they are seldom taken into consideration when the fertilizer question is considered; but there are three constituents: nitrogen, potash and phosphoric acid, that generally have to be supplied by the gardener. **Plants cannot grow** after the supply of any one ingredient has been exhausted, on the principle that a chain is no stronger than its weakest link. To grow vegetable crops to perfection liberal quantities of plant-feeding materials must be applied to the soil, and we always find it advisable to use both manures and commercial fertilizers.

Best Manures

Natural Manures (stable manures, etc.) usually contain varying quantities of the three essentials above mntioned, and when manure is intelligently stored and cared for, these essentials may all be retained until the manure is applied to the soil, but it is too frequently the case that "firing," "leaching," etc., cause more or less loss, reducing the value of such manure to its usefulness as humus. Natural manures feed plants more slowly but more continuously than chemical fertilizers and improve the texture of the soil, the effects of which last for more than one season—50 to 100 tons per acre is not too much to apply to a garden before plowing.

Commercial Fertilizers

Artificial or commercial fertilizers act immediately, starting the plants into an early and rapid growth, and hasten maturity. A high-class "complete fertilizer," suitable for the variety of vegetables usually grown in a garden, contains all three of the needed constituents in about the following proportions: 98 lbs. nitrogen, 120 lbs. phosphoric acid and 120 lbs. potash per ton, and should be applied after plowing and before harrowing at the rate of 500 to 1,000 lbs. per acre, and rowed crops may be further stimulated by 2 or 3 supplementary side-dressings during the growing season, using 100 to 200 lbs. per acre for each application. **Commercial Fertilizers are composed** of some base or superstructure, such as ground bone, phosphate rock, etc., to which the three plant-feeding essentials—**nitrogen, potash, and phosphoric acid**—are added in varying quantities suited to the needs of the crop the fertilizer is going to feed. As the quantity of each of the three essentials contained in a ton is always known, and as we know the average proportions that various crops consume, it enables us to approximately estimate the quantities to apply. The missing factor in enabling us to gauge the exact amount required of the essentials is the unknown quantity of each already in the soil. This can be approximately judged only by experimental plots on which different crops and different essentials are used. (Full instructions and tables for this experimental work are given in several works on Fertilizers.)

Nitrogen and Potash

Nitrogen is conducive to rapid growth and should be used more freely early in the season where tender and succulent growth, especially leaf-growth, is desired.

Potash hardens the wood-growth and checks too succulent leaf-growth, hastens maturity, and causes the plant to throw more vigor into fruits or flowers.

Importance of Firming the Soil

Make Soil Firm

The importance of firming the soil after seeds are sown and covered is a detail that is not usually appreciated by the amateur gardener, and, in consequence, there is often a disappointment because seeds either do not "come up" or germinate feebly and irregularly.

The failure to properly firm the soil after seeds are sown also has its effect upon the later growth and maturity of crop, particularly in light soil or during a dry season, as it allows too free a circulation of drying air and wind around the roots, depriving them of moisture and checking the growth of the plants; for it must be remembered that a sufficient amount of moisture is necessary, not only to prevent plants from "wilting," but also to enable them to assimilate their food, which is consumed only in solution, through their root hairs.

Vegetable, Flower, and Farm Seeds

A soil may be ever so rich in fertilizing constituents, but if there is not sufficient moisture to dissolve these essentials, and if this plant-feeding solution is prevented by barriers of dry atmosphere from coming in contact with the thirsty little rootlets, then the plants languish, and possibly the crop "burns up," if the weather continues hot and dry. Therefore we cannot too strongly impress upon the cultivator the vital importance of properly compacting the soil, if dry enough, after sowing and covering seeds; whether vegetable seeds, flower seeds, farm seeds, or grass seeds. Of course, there are conditions of soil and weather that render it inadvisable to press the soil too compactly about the seeds, as when the soil is heavy or too wet, or in very early spring or late fall, when copious rains can be depended upon to perform the operation for us, and when there is no danger from hot, drying atmosphere.

Press Soil with Foot

Under ordinary conditions when soil is of the mellow, friable and crumbly texture, in which it is suitable to sow seeds, then the planter should press every inch of soil over the seeds with the ball of his foot, allowing his whole weight to come on it, or the rows can be patted down with the back of a spade, or a narrow board may be placed over the row and be stamped down. But the foot is best because it confines the pressure to a narrow strip immediately over the seeds, bringing the moist soil into immediate contact with them, thus inducing quick and even germination, and gives them an earlier start than the weed seeds in the lighter soil between the rows.

Loosen Soil After Pressing

After the soil has been firmed as above described, the surface should be lightly raked over with a short-tooth rake, to prevent any tendency to "bake" or form a "crust," through which seedlings might have difficulty in forcing their way. This light raking leaves the immediate surface loose, like a "mulch," thus breaking the capillary tubes through which the soil moisture would otherwise escape.

In large gardening and field operations, and on lawns, it is of course impossible to firm the soil with the foot, so the roller should be used to accomplish a similar result.

GENERAL DIRECTIONS RELATING TO GARDEN VEGETABLES

Kind of Vegetable.	Days to "Come Up."	Ready for Use from Seed Sown.	Distance Table		Quantity of Seed, etc., Required.
			Apart in Rows.	Rows Apart.	
Asparagus, Seeds	20 to 28	3 to 4 years			2 oz. for 100 ft. row.
Asparagus, Roots	......	......	1 ft.	2 ft.	100 for 100 ft. row.
Beans, Dwarf	6 to 10	45 to 75 days	3 in.	2 ft.	1 qt. for 100 ft. row.
Beans, Pole and Lima	6 to 10	65 to 100 days	3 ft.	4 ft.	1 qt. for 100 hills.
Beets	7 to 10	60 to 75 days	4 in.	1 ft.	2 oz. for 100 ft. row.
Borecole (Kale) for spring use	6 to 10	85 to 120 days	2 ft.	2½ ft.	¾ oz. for 100 ft. row.
Borecole (Kale) for fall use	6 to 10	85 to 120 days	2 ft.	2½ ft.	¾ oz. for 100 ft. row.
Brussels Sprouts	6 to 10	100 to 120 days	1½ ft.	2½ ft.	¼ oz. for 100 ft. row.
Cabbage, Early	6 to 10	100 to 125 days	1½ ft.	2 ft.	¼ oz. for 100 ft. row.
Cabbage, Late	6 to 10	120 to 180 days	2½ ft.	2½ ft.	¼ oz. for 100 ft. row.
Carrot, Early	10 to 15	65 to 85 days	4 in.	1½ ft.	1 oz. for 100 ft. row.
Carrot, Late	10 to 15	100 to 120 days	5 in.	2 ft.	1 oz. for 100 ft. row.
Cauliflower, Early	6 to 10	100 to 115 days	1½ ft.	2½ ft.	¼ oz. for 100 ft. row.
Cauliflower, Late	6 to 10	100 to 135 days	2 ft.	3 ft.	¼ oz. for 100 ft. row.
Celery	12 to 20	125 to 150 days	6 in.	3 to 5 ft.	¼ oz. for 100 ft. row.
Corn, Sugar	8 to 10	60 to 100 days	3 ft.	4 ft.	1 qt. for 200 hills.
Cucumber	6 to 8	60 to 85 days	4 ft.	4 ft.	1 oz. for 60 hills.
Egg Plant	10 to 14	125 to 160 days	2½ ft.	2½ ft.	¼ oz. for 100 ft. row.
Endive	6 to 10	75 to 100 days	1 ft.	1 ft.	1 oz. for 100 ft. row.
Kohl Rabi	6 to 8	65 to 85 days	1 ft.	2 ft.	¼ oz. for 100 ft. row.
Leek	6 to 10	120 to 160 days	6 in.	1½ ft.	1 oz. for 100 ft. row.
Lettuce	6 to 10	75 to 100 days	1 ft.	1 ft.	¼ oz. for 100 ft. row.
Melon, Musk	6 to 10	90 to 120 days	4 ft.	4 ft.	1 oz. for 60 hills.
Melon, Water	8 to 12	100 to 125 days	8 ft.	8 ft.	1 oz. for 30 hills.
Onion, Seed	6 to 10	120 to 150 days	3 in.	1 ft.	1 oz. for 100 ft. row.
Onion, Sets	......	......	3 in.	1 ft.	3 pts. for 100 ft. row.
Parsley	18 to 24	90 to 100 days	4 in.	1 ft.	¾ oz. for 100 ft. row.
Parsnip	12 to 18	100 to 150 days	6 in.	1½ ft.	½ oz. for 100 ft. row.
Peas, Wrinkled	5 to 10	50 to 75 days	2 in.	2 to 4 ft.	1 qt. for 100 ft. row.
Peas, Smooth	5 to 10	50 to 65 days	2 in.	2 to 4 ft.	1 qt. for 100 ft. row.
Pepper	10 to 14	135 to 150 days	2 ft.	2½ ft.	⅛ oz. for 100 ft. row.
Potatoes	15 to 25	75 to 100 days	10 in.	2½ ft.	1 peck to 100 ft. row.
Pumpkins	6 to 10	100 to 125 days	8 ft.	8 ft.	1 oz. for 30 hills.
Radish	4 to 6	25 to 50 days	2 to 4 in.	1 to 1½ ft.	1 oz. for 100 ft. row.
Salsify	8 to 12	125 to 160 days	6 in.	1½ ft.	1½ oz. for 100 ft. row.
Spinach	6 to 12	60 to 75 days	4 in.	1 to 1½ ft.	1 oz. for 100 ft. row.
Squash, Summer	6 to 10	60 to 75 days	4 ft.	4 ft.	1 oz. for 50 hills.
Squash, Winter	6 to 10	100 to 125 days	8 ft.	8 ft.	1 oz. for 50 hills.
Tomato	6 to 10	125 to 150 days	3 ft.	3 ft.	⅛ oz. for 100 hills.
Turnip	4 to 7	60 to 75 days	6 in.	1 to 1½ ft.	¾ oz. for 100 ft. row.

FORTY VARIETIES OF GARDEN VEGETABLES

How to Plant and Cultivate

Vegetable Plants in Colors Shown on Following Pages

Artichoke

Artischöke, Ger. Artichaut, Fr.

Sow seeds in deep, rich, sandy loam with plenty of rotted manure. When large enough, transplant into rows three feet apart and two feet in the rows.

This vegetable is a great delicacy, highly valued in all parts of Europe, and also one of the most prominent table vegetables in California and other parts of this country. It is a perennial producing the large flower heads, which are the part eaten, the second season, and every year thereafter. The young stalks are also sometimes tied and blanched like celery, but they are not equal to the flower heads. Cook like asparagus and serve with cream or butter sauce. Sow seed early in hotbeds or box in the house, and when weather becomes settled transplant in rows four feet apart and two feet in the row. When started early sometimes blooms the first year.

One Variety

The Globe Artichoke is cultivated for its flower-heads, which are cooked like asparagus. Plants set in any good soil, with slight covering in winter, will remain in bearing several years.

Asparagus

One of the earliest and most delicious of spring vegetables. We strongly urge all those having enough available space to put in a bed for their own use, following carefully the cultural directions given below.

Beds are usually formed by setting roots, which can be procured. If you wish to grow plants from the seed yourself, pour warm water on the seed and allow it to stand until cool; pour it off and repeat two or three times with fresh warm water. Sow in spring in drills about 18 inches apart and 2 inches deep, in light, rich soil, planting 15 to 20 seeds to each foot of row. When the plants are well up, thin to about one inch apart and give frequent and thorough cultivation during the summer. If this has been well done, the plants will be fit to set the next spring.

The permanent beds should be prepared by deep plowing or spading and thoroughly enriching the ground with stable manure or other fertilizer; a moist, sandy soil is best. If the subsoil is not naturally loose and friable, it should be made so by thoroughly stirring with a subsoil plow or spade. Set the plants about 4 inches deep and 1 to 2 feet apart in rows 4 to 6 feet apart. After the plants are well started, give frequent and thorough cultivation. Early the next spring spade in a heavy dressing of manure and about one quart of salt and double the quantity of fresh wood ashes to each square rod, and cultivate well as long as the size of plants will permit, or until they begin to die down. The next season the bed may be cut over two or three times, but if this is done, all the shoots, no matter how small, should be cut. After the final cutting, give a good dressing of manure, ashes, and salt. Cultivate frequently until the plants meet in the rows.

In autumn after the tops are fully ripe and yellow, they should be cut and burned. A bed 15 feet by 50 feet, requiring about 100 plants, if well cultivated and manured, should give the following season an abundant supply for an ordinary family and continue productive for 8 or 10 years.

Three Varieties

Palmetto.—A very early maturing and prolific variety, producing an abundance of very large, deep green shoots of the best quality.

Conover's Colossal.—This sort is one of the largest and most extensively used green varieties. Shoots bright green, sometimes tinged with purple at the top, very tender and of the best quality.

Early Giant Argenteuil.—A French variety of excellent quality; very early, stalks large and thick; resists ravages of rust and blight better than any other sort.

Asparagus Seed

One Ounce Will Sow About 50 Feet of Drill

Sow in autumn, or spring, when soil is in good working condition. Cultivate during summer; give plants light covering of stable litter during winter. At 1 or 2 years, transplant to permanent beds.

Asparagus Roots

A saving of 1 or 2 years is effected by planting roots. For this you should select strong 2-year-old roots. For private use or for marketing on a small scale, beds should be formed 5 feet wide, with 3 rows planted in each, one in the middle and one on each side a foot from edge; distance between plants in rows, 9 inches.

Beans

Bohnen, Ger. Faijorenano, Sp.
Haricot, Fr.

Planting requires 1 quart to 100 feet of drill or 200 hills; 2 bushels per acre, in drills.

Warm, light, slightly fertilized soil, in a sunny situation, should be used. As soon as all danger of frost is past, plant in drills 18 to 30 inches apart, 2 inches in depth, and at a distance of 3 to 6 inches in the row; the distance between both drills and plantings varying according to the habits of the varieties used. If hills be preferred, space them 2 feet apart one way and 3 feet the other. Never work among the vines when wet, as it induces rust.

A succession of sowings can be made from the first week in May until September. Plant in drills about 2 inches deep, and from 18 inches to 2 feet apart, according to the richness of the soil; the plants should be about 3 inches apart.

Pole Lima Beans

Lima beans are not only profitable as green shell beans, but are also a paying crop to sell as dried beans during winter. They are always in demand and bring good prices.

Lima beans will not grow until the weather and ground are warm; if planted earlier, the seeds are apt to rot in the ground.

Two Varieties

Seibert's Early Lima.—In earliness, ease of shelling, and quality of the green beans, this variety is far in advance of all other early Limas for either the garden or market. The vine is very productive; although the pods rarely contain more than four beans, the total yield is enormous. The green shelled beans are of immense size, tender, and of finest quality.

King of the Garden Lima.—Vines vigorous and productive, producing a continuous bloom and fruitage to the end of the season. The pods are of enormous size, many specimens measuring from 5 to 8 inches, and some containing seven beans to the pod, all perfectly formed and of superior quality.

Dwarf, Bush or Snap Beans

In many localities the low-growing varieties are known under different names. Under this classification we include the best sorts selected after years of careful observation — bush, bunch, snap, string or dwarf beans.

Forty Varieties of Garden Vegetables. How Plant and Cultivate

About the first of May select a warm, dry, sheltered spot; dig and manure slightly; make drills 2 inches deep and 18 inches to 2 feet apart; drop the beans 3 inches apart in the drills, and cover not more than 2 inches deep. Hoe well in dry weather to keep down the weeds. Sow every two weeks for a succession until September.

1 qt. to 100 ft. of drill; 1½ bu. to the acre in drills

Four Varieties

Improved Red Valentine.—For snaps there is nothing superior to this variety among the green-podded sorts, and many prefer it to the wax varieties. Vine erect, with dark-green leaves; pods medium length, curved, cylindrical, with crease in back, very fleshy, crisp and tender; seed long, of medium size and unsymmetrical in shape; pink, marbled with red.

Black Valentine.—An extra early green-pod bean. It produces long pods that are almost straight, round, thick and meaty. They are soft green in color; in flavor unsurpassed. A good bean to force as well as to use for late planting.

Challenge Black Wax.—Fully one week earlier than any other. Pods clear waxy white, round, fleshy, crisp and tender. The dry bean is jet black, long, curved, and rather flat.

Currie's Rust-Proof Wax.—Pods long, flat and tender. Seeds blue-black.

Pole, or Running Beans

One quart will plant 100 hills

Plant in hills 3 to 4 feet apart each way, and 2 inches deep, allowing 6 seeds to each hill. When the plants are well established they should be thinned out to four. They are more sensitive to cold than the bush beans, and should not be planted before the middle of May.

Three Varieties

Extra Early Jersey Lima.—This is ten days earlier than the ordinary variety, while it is equal in flavor and productiveness.

Dreer's Improved Lima.—Beans thick, sweet and tender; very productive.

Large White Lima.—A large, late sort; broad, very thick, dark green.

Dwarf Lima Beans

Bush limas should be planted 3 feet apart, dropping 2 or 3 beans 15 inches apart in the row. Cover about an inch deep. Dwarf limas require no support.

Three Varieties

Burpee's Dwarf Lima.—Plants make perfect bushes from 18 inches to 2 feet high. They are sure croppers and immense yielders. Pods as large as those of the pole lima, and contain three to five beans of the best quality.

Dreer's Dwarf Lima.—Thick pods and large thick beans, three or four in a pod. Ripens fully ten days earlier than the pole lima of same name.

Henderson's Bush Lima.—Valuable on account of extreme earliness. Extremely productive, tender and delicious. The dry beans are small and white.

Beets

Runkelrueben, Ger. Remolacha, Sp. Betterave, Fr.

One oz. to 100 ft. drill; 5 to 6 lbs. to the acre, in drills

A rich, deep, light soil is particularly necessary for a successful growth of beets. For early supply, sow very early in spring, soon as ground can be worked, in drills 18 inches apart, 1 inch deep and thin to 4 inches in the row. For autumn and winter crops, sow later in the season. When young, the leaves make excellent greens.

If wanted very early, sow such sorts as Crosby's Egyptian and Detroit Dark Red in hotbeds and transplant, cutting off the outer leaves For general crop, sow in freshly prepared soil as soon as the ground will permit, about an inch deep and pressing the soil firmly over the seed. When the plants are well established, thin out. For winter use the turnip varieties may be sown in June so as to mature late in the season. The roots are stored in a cellar and covered with sand or sandy soil to prevent wilting, or they may be kept outdoors in pits such as are used for apples and potatoes.

Three Varieties

Albani.—One of the best, extra early beets in cultivation; very sweet and tender; fine for home and market garden use.

Eclipse.—Very early and especially desirable for the home garden; roots nearly globular, with a small tap root; flesh bright red.

Edmand's Blood Turnip.—Very uniform; roots always smooth, round and handsome; top small, of good marketable size and among the best for table use; color dark red; crisp, tender and sweet; good keeper.

Borecole, or Kale

One ounce will produce 3,000 plants

To grow this valuable winter vegetable successfully, it is important that the soil should be deep, well worked, and liberally manured. Sow about the middle of April in prepared beds, covering thinly and evenly; plant out in June, following directions recommended for cultivating cabbage.

Three Varieties

Dwarf Green Curled.—Very dwarf, spreading variety. Leaves beautifully curled, quite hardy; will remain over winter where the temperature does not fall below zero.

Dwarf-Brown.—Same as Dwarf Green, but dark purple.

Siberian, or Sprouts.—One of the best known varieties of kale, also called sprouts or German greens. The green curled leaves are tender and of delicate flavor.

Broccoli

Nearly allied to the cauliflower, but more hardy. The seed should be sown in the early part of May and transplanted in June; south, the sowing should be delayed until June or July, and the transplanting accordingly from August to October. In parts of the country where the thermometer does not fall below 20 or 25 degrees broccoli may be had in perfection from November until March. It succeeds best in a moist and rather cold atmosphere.

Two Varieties

White Cape.—Heads medium size, close, compact, and of creamy white color. One of the most certain to head.

Purple Cape.—Differs only in color.

Brussels Sprouts

This is one of the best vegetables for winter use, producing from the axils of the leaves an abundance of sprouts, resembling small cabbages, of excellent, mild flavor.

Two Varieties

Tall French.—Very fine.

Dwarf Improved.—A variety producing compact sprouts of excellent quality.

Cabbage

Kohl, Ger. Chou, Fr. Berza, Sp.

One oz. will produce 1,500 plants; ½ lb. to transplant for an acre

Culture.—For plants of the earliest sorts sow seed in January or February under glass, and prick out in flats or frames about 2 inches apart each way. Transplant to open ground as soon in spring as the land can be properly prepared. A rich, warm, fibrous loam is best. Have the plants in the rows 20 to 24 inches apart, and rows at least 2 feet apart. Give thorough cultivation, and irrigate in dry weather if practicable. Protect against the ravages of cut-worm, maggot and green worm. A little nitrate of soda applied around the plant is of great benefit. Potash applications, such as wood ashes or muriate, may also do much good. For late cabbage plants, sow seed in drills in open ground during April and May, and transplant in June and July, giving the plants more room than allowed for earliest cabbages. Dusting with tobacco dust, insect powder, etc., or splashing with hot soapsuds, especially whale-oil soap solution, are good and safe remedies for some of the insect pests attacking plants of the cabbage.

Early Varieties

Copenhagen Market.—A new variety from Denmark, which matures as early as Wakefield. Heads weigh 10 to 12 pounds and are very solid. It is the largest of the early round-head varieties, and of excellent quality.

Small Extra Early Jersey Wakefield.—The earliest strain of Wakefield cabbage, very hardy, and may be set out early. Heads small, but very solid.

Volga.—One of the earliest main crop cabbages of superior quality. Very desirable where a large, uniformly round head with short stem and compact growth is wanted. Matures very early for a variety furnishing such large heads of excellent shape. Very hardy, good keeper.

Early Drumhead.—A second early, sure heading cabbage of good quality. Plant of compact growth. Head large, thick, flattened on the top, solid, crisp and tender.

Red Cabbage

Red Delicacy.—Medium size and late; most delicious of all red varieties.

Early Red Dutch Erfurt.—Earlier than the Red Drumhead, but equally as valuable for pickling.

Red Dutch Drumhead.—A large-heading variety, fine for pickling.

Mammoth Rock Red.—The largest and most solid of the Red varieties; a sure-heading sort and tender.

Carrot

Moehren, Ger. Zanahoria, Sp.
Carrotte, Fr.

One oz. 100 ft. drill; 3 lbs. per acre

For early crops, sow as soon as ground can be worked, in drills 1 inch deep and 1 foot apart (3 feet for field culture), thinning 4 to 8 inches, according to varieties. Keep your plants well cultivated. Under favorable conditions 600 bushels per acre is a fair crop. The carrot, being enormously productive and of superior nutritive quality, is a desirable and profitable crop to grow for stock feed.

Carrots do best in warm, deep, rather light and fairly fertile soil, that is well supplied with humus, or on strong loam having been in clover and broken the year before. For earliest crop sow seed of the early short-rooted sorts in April or May, in drills a foot apart, and thin to 2 inches. For main crop, sow in May or June, or for succession even in July, using the longer-rooted varieties. The rows for these may be 16 to 20 inches apart, and the plants thinned to 2, 3 or even 4 inches. To raise carrots for stock, the rows may be made wide enough apart, say 2 to 2½ feet, to allow of cultivation by horse power. In sowing carrot or other small seeds, especially during dry weather, pains should be taken to firm the soil well over the seed, either by means of the feet or with the roller of the garden drill.

Three Varieties

Chantenay.—Tops medium sized; necks small; roots tapering slightly but uniformly stump rooted and smooth; color deep orange-red; flesh very crisp and tender. Although this is a medium early sort, it furnishes roots of usable size as early as any, is a heavy cropper, and is undoubtedly one of the best for both the market and private garden, while its great productiveness makes it very desirable as a field sort.

Long Orange.—The most popular of the older sorts for farm use on mellow soil. An improvement obtained by years of careful selection of the best formed and deepest colored roots.

Victoria.—Largest carrot grown, heaviest cropping and most nutritious variety cultivated; roots remarkably fine, light orange; symmetrical, excellent quality of high feeding properties; good keeper; heavy cropper on all soils; best adapted for rich land; grows half as much weight again per acre as ordinary sorts; grows well out of ground; easily harvested. All who have cattle should raise a quantity of carrots for feeding milch cows in winter. It increases the flow of milk and gives to the butter a delicious flavor and a rich golden color. Breeders of fine horses feed carrots to help keep them in health and condition.

Cauliflower

Blumen Kohl, Ger. Choufleur, Fr.

One ounce of seed for 3,000 plants

Cauliflower succeeds well in any soil where cabbages will grow. It delights in a rich soil and plenty of water. For early sorts, sow in a hotbed in February or March; for later crop, sow in May in a moist place. Transplanting should be done in moist weather.

Three Varieties

Extra Early Dwarf Erfurt.—Best for forcing, good for open ground. Dwarf and very solid, with short outside leaves. Can be planted 20 inches apart each way and forced. Almost as early as Snowball.

Barnard's Snowball Cauliflower.—For main crop, and for every purpose except for first early, or for culture under glass (for which the Extra Early Dwarf Erfurt is excellent) growers recommend. Barnard's Snowball as a variety of the highest quality and reliable, sure cropping strain.

Vaughan's New Snowball.—This is an excellent strain of this popular vegetable, the superior of which cannot be found. In size, compactness and color it represents quality of the highest type. A well grown head will measure 9 or 10 inches across and have depth in proportion, very solid, and the core will be perfectly white.

Celery

Sellerie, Ger. Apio, Sp. Celeri, Fr.
1 oz. to 2,000 seeds.

Celery delights and thrives best in a muck land, but can be grown in any good garden soil. Sow the seed in the open ground early in spring, as soon as ground can be worked.

Prepare the soil well, and sow in drills a quarter inch deep and about 10 inches apart, taking care to firmly press the soil over the seed.

When 2 inches high, after careful hardening, transplant to 2 inches apart each way. Later dig trenches 4 feet apart and 6 inches deep, or they may be set on level ground, and when large enough trim off the tops (to render stocky) and enough of the roots to admit of straight planting, and set in trenches 6 inches apart, covering to the crown only.

Other Directions.—For first crop sow seed early in hotbeds, or in boxes in the house, in rich, moist soil, covering seed very lightly. For main crop sow in open ground in April, or soon as soil is in good condition. Seed germinates slowly and if the weather is hot and dry protect with light covering of hay or straw. Stir soil as soon as plants are well up; thin out and transplant so that they stand about an inch apart in the row. If they grow too rapidly, shear the tops off when about 4 or 5 inches high, and this will make them more stocky. For main crop set plants out between June 15th and July 15th, in rows 3 feet apart, and plants 6 inches apart in the row. Care should be taken to firm the earth well around plants when setting and they will root better. Keep clear of weeds until about the middle of August, when it will be time to begin earthing up. Draw the soil up against plants with a hoe as closely as possible, firming it enough to keep plants in an upright position. Later in the season the blanching process must be finished by digging soil from between rows and banking clear to the tops on each side of the row of celery. Much labor is saved by growing the self-bleaching varieties. They are easier to grow but do not do quite so well.

Three Varieties

White Plume.—Stalks, portions of the inner leaves and heart naturally white, become fit for use by simply tying up closely with soft twine. More used than any other by gardeners.

Golden Self-Blanching.—By far the most popular sort on the market. It is of medium earliness, of dwarf, compact habit, with thick, solid, heavily ribbed stalks, which blanch easily to a clear waxen yellow. When grown in rich, moist soil, the stalks are numerous and large, with a solid heart of beautiful yellow.

Rose-Ribbed Self-Blanching.—Is a sport from the Golden Self-Blanching, having all its good qualities, with the additional attraction of beautiful rose-tinted ribs, making it very handsome.

Celeriac

(Or Turnip-Rooted Celery)
Knollen Sellerie, Ger.

Celeri-rave, Fr. A pio nabo, Sp.

A turnip-shaped, tender, 'marrow-like variety, possessed of more pungent taste and odor than the common sorts. Keeps well, and is principally used for flavoring meats and soups.

A popular German vegetable worthy of more extensive cultivation. The roots, which are used in salads or boiled like parsnips or turnips, have a celery flavor that is particularly pleasant to those who like celery. These roots keep well all winter. Celeriac is deserving of much more popularity.

Three Varieties

New Celeriac "Delicatess."—Produces perfectly smooth oval roots, without any side roots, and never rusts. Flesh is pure white, tender and of the best quality of all varieties of this vegetable. This size does very well on light soils.

Giant Prague.—This is unquestionably the largest and best celeriac for main crop, and is the most popular with American growers. The roots are very large, almost twice the size of Erfurt, almost globe-shaped, smooth, and with only a few roots at the bottom. The flavor and quality are excellent. The common kinds of celeriac one sees while marketing are often small and crooked, with a mass of unsightly and useless roots. The Giant Prague averages very regular in shape and has few side roots. It is a general favorite.

Earliest of All.—This is a variety ready in June. Flesh pure white and very tender; roots of good size, fine quality and never woody. Foliage short and tubers remarkably smooth. On account of its earliness may be planted for succession as late as July.

Chicory

Kaffeewurzel, Ger.

One ounce of seed for 100 feet of drill

Sow one-half inch deep, in drills, one foot apart and cultivate like carrots.

The dried roots are used for mixture with coffee, or as a substitute. The young leaves make excellent greens, and are preferred by some even to the dandelion.

Two Varieties

Large-Rooted Magdeburg.—The roots are cut in thick slices, roasted and used for coffee. The leaves in spring also make a good salad.

Witloof Chicory or French Endive.—This European delicacy has in the past few years become a standard salad in all of the best American hotels and restaurants. It can be easily grown by any one. Seed is planted in the spring and roots like parsnips are produced. The roots are stored in sand until wanted for growing on during the winter. They are then forced in soil in some deep place.

Citron

Wassermelone, Ger. Sandia, Sp. Melone d'eau Pasteque, Fr.

One oz. to 30 hills, 4 to 5 lbs. in hills to an acre.

The culture of the citron is very similar in all respects to that of the musk varieties. Being hardier and of much more vigorous habit, however, it may be planted before settled warm weather appears, in hills not less than 8 feet apart, and thinned to two vines per hill. If melons of largest size are the object, remove all but a few when quite small.

Collards

Well adapted to the southern climate, where it is extensively used. It is a species of cabbage, highly esteemed for its delicious flavor.

Seed may be sown in the extreme south from early fall until late spring. The plant is quite hardy. Plants may stand 8 inches apart. Treat as cabbage.

Corn

Sweet or Table Varieties

One quart for 200 hills. One peck for acre in hills.

A rich, warm, alluvial soil is the best, but excellent sweet corn can be raised on any good, ordinary soil, if it is deeply and thoroughly worked before planting. In the north sweet corn should be planted as early as can be done without risking great loss from frosts or from rotting of the seed in the soil.

If planted in rows, make the rows about 4 feet apart and place the seed 14 to 16 inches apart in the row, covering one inch deep with fine soil firmly pressed down.

If planted in hills, make the hills for the early varieties 3 feet apart each way and plant 6 kernels to the hill. For the later sorts the hills should be not less than 4 feet apart each way. Hoe frequently, and when 6 inches high thin so as to leave 3 or 4 plants in the hill. Give frequent and thorough but shallow cultivation until the tassels appear. For succession, plant every two weeks until late summer.

Three Varieties

Stowell's Evergreen.—This standard main crop variety excels all other late sorts in sweetness and productiveness. It is more popular than any other for canning, for marketing and for the home garden. Great care has to be exercised in the selection of stock to grow seed from, as this variety has a tendency to deterioration and a shorter grain, which makes it less sugary and desirable.

Mammoth Sugar.—A large, late variety, having ears of mammoth size, 14 to 20 rows. Quality excellent, not exceeded by any variety. A good canners' variety, being white grained and very uniform. A week later than Stowell's Evergreen.

Early Evergreen.—The ears of this new corn grow 8 inches long, are mostly 14 to 18 rows. This is a magnificent kind for market gardeners and for main crop in every home garden. It ripens 10 to 12 days in advance of Stowell's Evergreen and is equally as good for all purposes. The kernels are very sweet and tender, and when eaten from the cob break off free from husky tips so common to some otherwise fine table corns.

Corn Salad

A small, quick growing salad plant for late fall, winter and spring use. The leaves are used as a substitute for lettuce and spinach.

During August and September sow the seed in shallow drills about one foot apart, covering with about one-fourth inch of fine soil firmly pressed down. On the approach of severe cold weather, cover with straw or coarse litter. The plants will also do well if the seed is sown very early in the spring, and, like most salad plants, are greatly improved if sown on very rich soil; indeed, the ground can scarcely be made too rich for them.

Cress

Brünnenkresse, Ger. Cresson de Fontaine, Fr. Berro, Sp.

One ounce will sow 150 feet of drill

A popular salad which should be sown early in the spring, very thickly in shallow drills, and at short intervals, for succession, as it soon runs to seed.

This is a well-known hardy perennial, aquatic plant, growing abundantly along the margins of running streams, ditches and ponds, and sold in immense quantities in our markets in spring. Where it does not grow naturally, it is easily introduced by planting along the margins of ponds and streams, where it increases, both by spreading of the roots and by seeding. It has a particularly pleasant, pungent taste, agreeable to most people.

Two Varieties

True Water.—Sow seeds along the border of running water.

Upland Cress.—A perennial variety; hardy, produces well; same flavor as water cress. Grown on high, dry land; does not run to seed rapidly.

Cucumber

Gurken, Ger. Concombre, Fr. Pepino, Sp.

One ounce will plant fifty hills; two pounds will plant one acre

Culture.—For very early cucumbers, sow April 1st, in a hotbed upon pieces of sod (grass side down), so that they can be readily transplanted to the open ground, in rich soil, when danger of frost is over, or protect by hand-glasses. For early use, plant, if the weather has become settled and warm, in hills 4 to 6 feet apart each way; thin out to four of the strongest plants to each hill, after all danger from insects is over. They succeed best in a warm, moist, rich, loamy soil. Continue planting at intervals for a succession. The cucumbers should be gathered when large enough for use, whether required or not; if left to ripen, it destroys their productiveness. For pickles, plant from June until the middle of July.

The yellow-striped cucumber or squash beetle is the most serious insect enemy of this crop. Bordeaux Arsenate of Lead Mixture is by far the best remedy yet discovered. Dilute it with water, 3 ounces to the gallon, and spray it on the vines when in danger of the beetle or blight.

Two Varieties

The Davis Perfect.—For a number of years this variety was controlled by the originator, who states that he experimented several years in trying to get an improved strain of cucumber for forcing under glass and outside culture. The cucumbers grow long and slim, sometimes measure 12 inches in length; the color is a rich, dark, glossy green, which they hold until nearly ripe. It is very tender, brittle, and of fine flavor.

Everbearing.—This is a valuable variety, producing pickles and cucumbers until frost kills the vines. It is very productive; fruits of all sizes will be found on the vine at same time; size is small and well adapted for pickling.

Dandelion

One ounce will sow 150 feet of drill

In spring the blanched leaves of this plant make a most delicately flavored and wholesome salad. The seed may be sown in May or June, in drills half an inch deep, and 12 inches apart; thin out the plants to 6 inches; cultivate during summer and the following spring the leaves will be fit to cut. The quality is improved by blanching, which can be done by covering with leaves or other loose litter, or by placing a large inverted flower pot over each plant.

Two Varieties

Improved Thick-Leaved.—A very early, large-leaved variety.

Common.—A popular sort for greens and salads.

Egg Plant

Eierpflanze, Ger. Aubergine, Fr. Berengena, Sp.

One ounce will produce 1,000 to 2,000 plants

Culture.—Sow the seeds in hotbeds early in March. When 3 inches high pot the young plants, using small pots, and plunge them in the same bed, so that the plants may become stocky. They can be planted out from the pots when the season becomes sufficiently warm, in May or June. Egg-plant seed requires a higher temperature for germination than any other garden vegetable, and this temperature should be maintained right along in order to maintain strong and healthy growth. The soil can hardly be made too rich. After settled warm weather has set in, set the plants in open ground, allowing 3 feet space between rows, and 2 feet space between the plants in the row. Watch for the potato beetle. This pest as well as blight may be controlled by spraying with Bordeaux Arsenate of Lead Mixture.

Three Varieties

New York Improved Large Purple.—This variety is largely grown and produces the egg plants in great quantities, as the plants bear from 6 to 8 fruits each. They are large, nearly round, dark purple, free of thorns and of excellent quality.

Early Long Purple.—Earliest and hardiest, very productive; fruit 6 to 10 inches long.

Black Pekin.—Fruit purplish-black, round, large, solid, smooth and glossy; very prolific and early.

Endive

Endivie, Ger. Chicoree, Fr. Endibia 6 Escarola, Sp.

One ounce of seed to 300 feet of row

Endive is one of the best and most wholesome salads for fall and winter use. Sow in shallow drills in April for early use or for late use in June or July. When 2 or 3 inches high, transplant into good ground or thin out to 1 foot apart. When nearly full grown, and before they are fit for the table, they must be bleached. This is done by gathering the leaves together and tying with yarn to exclude the light and air from the inner leaves, which must be done when quite dry, or they will rot. Another method is to cover the plants with boards or slats. In three or four weeks they will be blanched.

Two Varieties

Green Curled Winter.—Standard sort for fall and winter crop; when tied up this variety blanches splendidly.

White Curled (Self-blanching.)—Leaves pale green, grows to a large size, always crisp and very tender.

Gourds

Sow in the garden, in late spring, after the ground has become warm. The plants are tender, requiring the same culture as squash or melon. Should be sown where they are to grow, as they do not transplant easily.

Two Varieties

Japanese Nest Egg.—Grows almost uniformly to the size, color and shape of a hen's egg. The shells are hard and make the very best of nest eggs, as they do not crack. The largest ones, when sawed in two, make excellent pots for starting tomato, strawberry and other plants.

Dipper.—Makes a lighter and more convenient dipper than can be bought. Dippers of various sizes of a capacity from a pint to a quart and a half, can be had from a few vines.

Curious Vegetables

The Iowa Seed Company, located at Des Moines, Iowa, suggests that exhibitors at agricultural fairs will aid in making the fair interesting by showing something new in vegetables unlike what the neighbor grows, including mixed peppers, gourds, kale, endive, egg plants, brussels sprouts, kohl-rabi, okra, borekole, cress, dandelions, corn salad, chicory, celeriac, parsley, salsify, mustard and other plants not generally grown. Several of these are found in the list of vegetables shown in this volume.

Herbs, Sweet, Medicinal and Pot

The cultivation of herbs is very simple, and but little care is needed beyond keeping down the weeds. Sow in April or May, in drills 12 to 15 inches apart, and thin out the young plants where they stand too thick. Gather when just coming into bloom, tie in small bunches and dry in the shade.

Varieties marked with an * are perennials.

Anise.—Used for seasoning and garnishing.

***Balm.**—Leaves used medicinally.

Basil, Sweet.

Borage.—Leaves are used as a salad.

Catnip.—Good for bee pasture.

***Caraway.**—Seeds used medicinally and in bread.

Coriander.—Seeds used for flavoring.

Dill.—Leaves used with pickles, seeds for flavoring soups and vinegar.

Fennel.—Seeds for flavoring; leaves for garnishing.

Hops.—Used in making beer.

***Horehound.**—Has medicinal qualities.

Hyssop.—Used in medicine.

***Lavender.**—Its flowers are used in the manufacture of oil and distilled water.

Marjoram, Sweet.—Used for seasoning.

Rosemary.—Leaves used for seasoning.

Mint.—For soups, etc.

Rue.—Cures roup in poultry.

Saffron.—Used for coloring.

Sage.—Leaves are used in stuffing and sauces.

Savory, Summer.—Used for seasoning.

***Thyme.**—For seasoning.

Tobacco.—For smoking.

***Wormwood.**—Beneficial for poultry.

Kohl-rabi

One ounce will sow 200 feet of drill

This vegetable, the popularity of which is rapidly increasing, combines the virtues of the turnip and cabbage, but excels both in nutritive, hardy and productive qualities. The seed may be sown in June, in rows 18 inches apart, and the plants thinned out to 8 or 10 inches.

Two Varieties

Short Topped Early White Vienna.—The most desirable variety for forcing and early outdoor planting. Fine for table use.

Large White Vienna.—A large late variety, which remains tender longer than any other sort.

Leek

This belongs to the onion family. Leaves flat; stems very large, cylindrical, bulbous.

Sow early in spring in drills 12 to 15 inches apart, covering one-half inch deep. Thin plants to 6 inches apart in row and draw the earth about them when cultivating.

If one desires very white and tender leeks, transplant when about 6 inches high, setting 4 inches apart in trenches about 2 feet apart, and gradually earth up like celery.

Three Varieties

London Flag.—This variety is hardy, of good quality, and is extensively cultivated in this country.

Large American Flag.—A variety similar to, but larger than, the London Flag, and very popular. One ounce of seed to 150 feet of drill. This is the sort chiefly grown by market gardeners. It is of excellent quality, mild flavor and uniform.

Monstrous Carentan.—The very largest variety, often three inches in diameter, and becoming very white and tender. A very hardy and desirable sort, which is worthy of more extensive cultivation.

Lettuce

Lattich, odor Garten-Salad (Ger.),
Laitue (Fr.), Lechuga (Sp.)
One ounce will produce about
3,000 plants

Culture.—Sow the seed in hotbeds or flats during February or early March, prick the young seedlings out in flats or coldframe, several inches apart each way, and, as soon as a nice, rich, warm spot can be prepared in open ground in spring, transplant the well-hardened plants in rows a foot apart, allowing 8 to 12 inches space between the plants in the row. For succession sow seed thinly in open ground, and thin the plants to 5 or more inches apart. Sow for succession every few weeks until the fall. Some varieties do well in a cool forcing house during winter.

Two Varieties

Early White Cabbage (White Butter Lettuce).—A good variety for sowing in the fall, as it is nearly hardy and requires but little protection. Heads are very firm and nicely blanched.

Black-seeded Tennisball.—Forms a close, hard head, with few outer leaves.

Musk Melon

One ounce will plant 75 hills

Cultivate in hills, which should be 5 to 6 feet apart each way, and composed of light, moderately rich soil. The hills should be dug about 2 feet square, 18 inches deep, and half filled with well-rotted manure, which must be thoroughly incorporated with the soil. Plant in May, 10 seeds to the hill, and when the plants are well up, thin out to three. Cultivate until the vines cover the ground, and pinch the ends of the growing shoots to induce early fruiting.

Three Varieties

Miller's Cream, or Osage.—A remarkably fine variety of large size and delicious flavor. The flesh is deep salmon color and very thick. A great favorite for the market and home garden.

Rocky Ford.—A very popular small melon, of a most delicious flavor.

Extra Early Hackensack.—The fruit is medium-sized, nearly round, and very thickly netted; flesh light green, of delicious flavor.

Mustard

Mustard is not only used as a condiment but the green leaves are used as a salad or cut and boiled like spinach. Sow as early in the spring as the ground will permit, in drills about eighteen inches apart, covering one-half inch deep. For succession, sow every few weeks 'till autumn. Water freely. In the South the seed may be sown in autumn and the plants used early in the spring as a salad and for greens.

Two Varieties

Ostrich Plume.—Leaves long, ruffled, frilled and curved gracefully as an ostrich plume; desirable for garnishing. Can be cut quite early; excellent for "greens."

Southern Giant Curled.—True curled leaf variety so popular in the South for planting in fall to furnish early spring salad; also fine for spring sowing.

Okra, or Gumbo

Essbarer Eibisch (Ger.), Gombaud
(Fr.), Quimbombo (Sp.)

Culture.—This vegetable is extensively grown for its green pods, which are used in soups, stews, etc., to which they impart a rich flavor, and are considered nutritious. Sow the seed thickly in rich ground, about the middle of May, or when the ground has become warm, in drills 3 feet apart, 1 inch deep; thin to 10 inches apart in drills. Culture otherwise much like corn.

Two Varieties

Perkins' Long-Pod Okra.—An exceedingly handsome variety of okra, which is a great improvement upon other varieties heretofore grown. The pods grow 4 or 5 inches in length and are very tender, long, slim and of a beautiful deep green color. The habit of growth of plant is dwarf, and it is very productive.

Dreer's Little Gem.—The best of the dwarf sorts. It makes a stocky growth of plant and is very productive. The pods are long, slender and of a light green color.

Onions

One ounce of seed for 200 feet of
drill; four to five pounds
for an acre

The onion is most successfully grown in a rich, sandy loam. Continued cultivation upon the same plot of ground, contrary to the general rule, rather improves the crop than otherwise.

As early as the ground can be worked in the spring, sow the seed in drills 14 inches apart, covering half an inch. When the plants first appear in the rows, commence hoeing, just skimming the surface. Subsequently, weed thoroughly and carefully by hand. When the tops die, pull the onions and spread evenly over the ground; stir or turn until thoroughly dried, then cut the tops off one-half inch from the bulb. Winter in a frost-proof place.

Globe onions are preferred by some growers to those of any other shape. Such onions do not occupy any more space in the row; their size and solidness make them weigh out and measure more, and their attractive appearance finds for them ready sale in nearly all markets.

Two Varieties

Barnard's Yellow Globe.—This is a superb onion for all classes of soil (well enriched) on account of its quick maturing qualities, and especially good for muck lands. The onions from this strain of seed ripen early and all at once. They are distinct and perfect in shape, with very small necks; handsome, bright, even color. The firm solid bulbs are all that can be desired in size and quality. Being excellent winter keepers, they are sought in all onion markets.

White Globe.—One of the most beautiful globular, mild flavored onions. A favorite for market; salable everywhere. It is of very large size, and of fine quality.

Onion Sets

For early onions for bunching; ready for table in a very few weeks. It is cheaper to grow from seed but considerable work to weed, and many prefer to buy sets.

Four Varieties

Potato Onion Sets.—A species of Multiplier onion, increasing from bulb early; matures quickly; mild.

White Multiplier Onion Sets.—Pure silvery white; frequently producing as many as twenty bulbs in a single cluster; excellent quality; very early.

L. PH. G.

Forty Varieties of Garden Vegetables

HOW TO PLANT AND CULTIVATE EXPLAINED ELSEWHERE IN THIS VOLUME

ARTICHOKE

ASPARAGUS

BEANS

BEET

Forty Varieties of Garden Vegetables

HOW TO PLANT AND CULTIVATE EXPLAINED ELSEWHERE IN THIS VOLUME

BORECOLE OR KALE

BROCOLI

BRUSSELS SPROUTS

CABBAGE

Forty Varieties of Garden Vegetables

HOW TO PLANT AND CULTIVATE EXPLAINED ELSEWHERE IN THIS VOLUME

CARROT

CAULIFLOWER

CELERY

CELERIAC

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CHICORY

CITRON

COLLARDS

CORN

Forty Varieties of Garden Vegetables

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CORN SALAD

CRESS

CUCUMBER

DANDELION

Forty Varieties of Garden Vegetables

HOW TO PLANT AND CULTIVATE EXPLAINED ELSEWHERE IN THIS VOLUME

EGG PLANT

ENDIVE

GOURD

HERBS

Forty Varieties of Garden Vegetables

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KOHL RABI

LEEK

LETTUCE

MUSKMELON

Forty Varieties of Garden Vegetables

HOW TO PLANT AND CULTIVATE EXPLAINED ELSEWHERE IN THIS VOLUME

MUSTARD

OKRA

ONION

PARSLEY

Forty Varieties of Garden Vegetables

HOW TO PLANT AND CULTIVATE EXPLAINED ELSEWHERE IN THIS VOLUME

PARSNIP

PEAS

PEPPER

PUMPKIN

Forty Varieties of Garden Vegetables

HOW TO PLANT AND CULTIVATE EXPLAINED ELSEWHERE IN THIS VOLUME

RADISH

RHUBARB

RUTABAGA

SALSIFY

Forty Varieties of Garden Vegetables

HOW TO PLANT AND CULTIVATE EXPLAINED ELSEWHERE IN THIS VOLUME

SQUASH

TOMATO

TURNIP

WATERMELON

Forty Varieties of Garden Vegetables. How Plant and Cultivate

Red Top Sets.—Commonly known as Button onion sets.

Perennial or Winter Sets.—Also called Egyptian or Tree onions. Usually set in fall; produce earliest spring onions without winter protection. Do not make large bulbs.

Parsley

Petersilie (Ger.) Persil (Fr.), Peregil (Sp.)

Culture.—Used for garnishing and seasoning soups, meats, etc. Succeeds best in a mellow, rich soil. Sow thickly early in April in rows 1 foot apart and ½ inch deep; thin out the plants to stand 6 inches apart in the rows. The seed is slow of germination, taking from three to four weeks to make its appearance, and often failing to come up in dry weather. To assist its coming up quicker, soak the seed a few hours in warm water, or sprout in damp earth, and sow when it swells or bursts. For winter use protect in a frame or light cellar.

Three Varieties

Dreer's Summer Green.—Well adapted for growing during the hot summer months. It holds its color late.

Dwarf Extra Curled Perpetual.—Leaves tender, crimped and very curly, of a bright green color.

Fern Leaved.—A fine-leaved variety, excellent for garnishing.

Parsnip

Pastinake (Ger.), Panais (Fr.)

One ounce will sow about 150 feet of drill

The value of the parsnip as a culinary vegetable is well known but is not generally appreciated at its full value for stock feeding. On favorable soil it yields an immense crop of roots, more nutritious than turnips and very valuable for dairy stock.

Parsnips are usually grown on deep, rich, sandy soil, but will make good roots on any soil which is deep, mellow and moderately rich. Fresh manure is apt to make the roots coarse and ill shaped. As the seed is sometimes slow and uneven in growth, it should be sown as early as possible in drills two and one-half feet apart; cover one-half inch deep and press the soil firmly over the seed. Give frequent cultivation and thin the plants to six inches apart in the row.

One Variety

Hollow Crown or Guernsey.—An excellent variety for the table. Roots long, with smooth white skin, uniform in shape, tender and of the best quality. The variety is easily distinguished by the leaves growing from the depression on top or crown of the root.

Garden Peas

Erbsen (Ger.), Pois (Fr.), Chicaros o Ginsantes (Sp.)

One quart will plant about 100 feet of drill. One and one-half to two bushels for an acre.

Culture.—Peas of extra early, smooth class are the very first thing to be planted in the garden in spring. The wrinkled sorts follow a little later, as they are not quite so hardy. Tall late varieties need brush or other support. By selecting sorts that do not grow much over two feet high, the necessity of providing brush may be avoided. Judicious selection of varieties and planting frequently for succession will give us a full supply of the choicest green peas almost during the entire season, with the possible exception of the hottest part of the summer. Open furrows three or four inches deep and three feet apart; scatter the seed peas into them and cover with hoe or plow. Cultivate like corn or beans. The late tall sorts may be planted in double rows and brush stuck in between for support. All garden peas, however, require good, strong and fertile land. Heavy yields cannot be obtained on poor soil. The very dwarfest sorts of the American Wonder type will succeed only on the very richest garden land, and may be planted in rows a foot apart.

Extra Early Varieties

Ferry's First and Best.—The earliest and most even strain of white, extra early peas, maturing so well together that sometimes a single picking will secure the entire crop. Vines vigorous and hardy, of medium height, about two and one-half to three feet, bearing three to seven straight pods of good size, about two and one-half to two and three-fourths inches long, each containing five to seven medium sized, smooth peas of fair quality.

Early Morn.
Market Surprise.
Sutton's Green Gem.
The Leader.

Pepper

Pfeffer, Ger. Piment, Fr.

It will require one ounce of seed for 1,500 plants

Peppers are indispensable as a seasoning for soups and meats. The large varieties are mainly used for the purpose, and for pickling. The mild, sweet varieties, like Golden Dawn and Ruby King, are used for mangoes, while the small-fruited sorts are best for sauces.

Peppers are more tender than most vegetables. The seed should be sown in a hotbed, cold frame, or if no other conveience a box in the window, and transplanted about the last of May. They can be sown in the open ground when the weather becomes warm and settled. Warm, mellow soil, well fertilized, should be used.

Two Varieties

Chinese Giant Pepper.—This desirable variety is undoubtedly the largest sweet pepper ever offered. The flesh is quite thick, very mild and remarkably sweet.

Giant Crimson.—This new pepper is of upright growth, and produces fruits nearly as large as Chinese Giant. It ripens early and is very mild.

Pumpkin

Grosse-Kürbis, Ger. Potiron, Fr. Calabaza, Sp.

One ounce of seed for 25 hills, three pounds for an acre

Culture.—Sow in good soil in May, when the ground has become warm, in hills 10 feet apart each way, or in fields of corn about every fourth hill; plant at the same time with the corn. Pumpkin varieties if planted together will mix. There is not much danger of their mixing or hybridizing with squashes or other vines.

Two Varieties

Winter Luxury Pumpkin.—A very good keeper and a splendid pie pumpkin; shape round, skin finely netted, and beautiful russet-yellow color; flesh thick and of fine flavor.

Sugar, or New England Pie.—For making pies this variety cannot be excelled. The pumpkins are small, but very sweet, fine-grained and of the best quality. The skin is a deep orange and flesh rich yellow.

Radish

Radischen, Rettig (Ger.), Radis, Rave, Petite Rave (Fr.), Rabana (Sp.)

One ounce of seed will grow 100 feet of drill

Culture.—Sow early and often. In good, warm, fibrous loam, especially if quite sandy, summer radishes will make a crop in 4 to 6 weeks from sowing. The soil should be well prepared, and fertilizers may be used freely. Have the rows a foot apart, and sow just seed enough so they will not require thinning. Any little spot that becomes available during summer may be utilized for planting radishes. The short or turnip-rooted sorts are quickest and easiest to grow, and good for forcing also. On greenhouse bench or in frames the rows need not be more than 4 inches apart. Sow winter radishes in July and August. They grow best in the cooler autumn weather. Take them up before severe freezing and store in sand in the cellar, or in a pit, where they will keep tender and crisp all winter.

A Profitable Crop.—Farmers' boys can make money easily and very quickly by sowing an ounce or two of radish seed. It is surprising how many bunches can be sold at five cents each from the little garden plot. Only four to five weeks required from sowing to selling. Try it and see.

Five Varieties

New Perfection.

Crimson Giant.

Cardinal Globe.—Those who like the crisp little red radishes that come so early will be pleased with this variety. The radishes grow globular in shape, and are of a most brilliant cardinal-red color. It will stand considerable heat; therefore it is a quick forcer, and the quality is fine, being crisp and tender. It is by far the best variety for forcing, and also does well in open ground.

Early Bird. — Decidedly the earliest of radishes. Quick growth is one of the main essentials for a crisp and tender radish, and with loose soil and proper culture the Early Bird is ready for the table in twenty days from the time of sowing the seed, which makes it one of the most desirable sorts ever offered for either forcing or outdoor culture. It is of round or turnip shape as shown in our illustration, of bright scarlet color and pure white flesh, which is tender, crisp and of the very best flavor. It has few and short leaves, which admits of very close growing, thus producing a large number of bundles of radishes on the same ground. Very desirable for the home garden and money maker for the market gardener.

Early Scarlet Gem.—An extremely early variety which has matured fit for the table in seventeen to twenty days from the time of sowing the seed and is fully grown in less than four weeks. It is of a perfect globe shape, and of a bright, rich scarlet color, tipped with white, thus making it particularly handsome on the table.

Rhubarb

Rhabarber (Ger.), Rhuborbe (Fr.),
Ruibarbo (Sp.).

One ounce of seed to 125 feet of drill

Culture.—Good plants are easily grown in any good garden soil. Sow seed thinly in shallow drills a foot apart, thin to 4 or 5 inches. Keep soil loose and free from weeds. The plants are liable to vary considerably. Pick out the strongest and best. In fall or spring following, transplant to the permanent bed, four feet apart each way, in deep, warm and very rich soil. The more manure the better stalks. For winter forcing take up two-year roots in fall, leave out to freeze, then bed close together on cellar bottom or under greenhouse bench in the dark.

Two Varieties

Linnæus.—Early, large, tender and very fair.

Large Victoria.—A very large, late variety.

Rutabagas

Largely grown in the north for stock feeding, and for this are superior to turnips. Sow not later than June in drills two feet apart and thin out to eight inches in the row.

Four Varieties

American Purple Top.—Deep purple above, yellow underneath; flesh yellow, solid and sweet. Good for stock or table use.

Monarch.—A superior variety to cultivate for cattle feeding, the flesh being nutritious.

Skirving's Purple Top.—Flesh yellow. Good keeper.

White Swede or Russian.—Grows very large; excellent for table or stock; flesh firm, white, solid, has a very rich and sweet flavor.

Salsify

Or Vegetable Oyster

Hafer-Wurzel (Ger), Salsifis (Fr.),
Ostien Vegetal (Sp.)

One ounce for 50 feet of drill

Used the same as carrots, or, after having been boiled, made into cakes and fried like oysters, which they resemble in flavor.

Culture.—Cultivate the same as carrots or parsnips; it is hardy; can remain in the ground all winter for early spring use, but should be taken up before it starts growing; take up a supply for use during the winter. Suceeds best in a light, well enriched, mellow soil. Sow early in the spring in drills 12 to 15 inches apart, 1 inch deep; thin, if necessary, to 6 inches apart.

Two Varieties

Mammoth Sandwich Island.—This variety of salsify grows to a very large size, and resembles a good-sized parsnip. It is very mild and delicately flavored, and very popular.

Long White.—A favorite market variety and fine flavored.

Squash

One of the most nutritious and valuable of garden vegetables. The summer varieties come to the table early in the season, while the fall and winter sorts can be had from August until the following spring. The winter varieties are very well adapted for stock feeding and we heartily recommend them for that purpose.

Squash plants are very tender and sensitive to cold and so planting must be delayed until settled warm weather. General methods of culture are the same as for cucumbers and melons, but squash is less particular as to soil. Summer varieties should be planted four to six feet apart each way and winter sorts eight to ten. Three plants are sufficient for a hill. In gathering the winter sorts care should be taken not to bruise or break the stem from the squash, as the slightest injury will increase the liability to decay. Winter squashes should be stored in a moderately warm, dry place and the temperature kept as even as possible. For those who desire very early squashes, seed can be planted in boxes, and transplanted.

Insect pests that attack the vines when small, such as the striped beetle, may be kept off by frequent dustings with air-slaked lime, soot, or sifted ashes diluted with fine road earth. For the large squash bug, the best remedy is a kerosene emulsion.

Five Varieties

No. 1, True Hubbard; No. 2, Blue Hubbard; No. 3, Warted Hubbard; No. 4, Red Hubbard.

Delicious.—This fine squash has proved to be a most desirable new winter variety. Color of the skin is green, with an occasional blue specimen, about the same size as the Hubbard, weighing 5 to 10 lbs. Has very thick flesh, cooks dry and is of superior flavor. Although a good fall variety it is in its best condition during the winter.

Early Prolific Marrow.—Early and productive, the two most important features for the market gardener, while its attractive color—brilliant orange red—good cooking and keeping qualities, make it popular with consumers.

Tomatoes

Liebesapfel (Ger.), Tomate (Fr.),
Tomate (Sp.)

Use one ounce of seed for 1,500 plants; one-fourth pound to transplant for an acre

The tomato is very easy to grow as an outdoor crop, requiring little or no expert knowledge. Any fairly enriched garden soil will produce good specimens. For the early crop the seed is usually sown about March 1, in shallow boxes, in a greenhouse, a hotbed or a sunny window where the temperature ranges from 65 degrees at night to 80 degrees in the daytime. The seed should be covered about one-fourth of an inch. When the plants are about 1 inch high, transplant into boxes of soil 3 inches deep, the plants 2 inches apart, and keep at an average temperature of 60 degrees, where they may remain until time for planting in the field. If a few plants are grown for home use and early fruit is desired, then shift the necessary number of plants into 4-inch pots when the plants are about 6 inches high, using a very rich soil. By this method strong, stocky plants may be had for planting out about May 20, which is as early generally as it is safe to do it. Should the thermometer fall below 40 degrees at night after planting, cover the plants with plant protectors, taking them off in the morning when the thermometer is above 40 degrees. A very rich soil is not desirable for tomatoes, as, if too rich, the fruit does not set as early or as bountifully as in a moderately rich soil; however, there should be a fair coat of well-rotted stable manure spread on the soil and plowed or dug under prior to setting the plants and then thoroughly harrowed. Take the plants from the boxes with the least disturbance of the roots possible. With an ordinarily loose soil in the boxes, the plants can be pulled apart without breaking many roots, but take the entire contents of the boxes out first, using a spade for that purpose; this renders it easier to accomplish. Plant in rows 3 to 4 feet apart and the same distance in the rows. All that now remains to be done is hoeing and cultivating occasionally, allowing no weeds to grow. In garden culture supports for the vines are desirable. The simplest way to train the vines is by driving a stake, say 6 feet long by 2 inches square, about 4 inches from each plant, which, when 1 foot high, should be tied loosely to the stake with some soft twine, and thus continue to tie at intervals of 1 foot as the plants grow. Grow to a single stem and cut off all superfluous side shoots at intervals. During the season cut out all growths which exclude sunlight from the fruits; it will repay the trouble taken to do it. To grow the large specimens all that is necessary in addition to the method just described is, plant the "Ponderosa" or "Crimson Cushion." When the fruit begins setting pinch off all fruits excepting 3 or 4 on each vine. At this period give two or three liberal applications of some reliable garden fertilizer for vegetables, at intervals of two weeks, hoeing it well into the soil. Very large, handsome specimens can be grown in this way. The late summer and early fall crop is often grown by sowing the seed about May 10 in land carefully prepared and properly enriched, in hills 3 or 4 feet apart. It is customary to drop from 8 to 12 seeds in a hill and when about 6 inches high, thin out to one plant in each hill, taking care to keep hills free from weeds. The cultivation used for this crop is the same as employed for the early crop.

Five Varieties

Ponderosa—The Giant Tomato.—This is the largest-fruited tomato and is of fine quality for slicing. The vines are of strong growth; fruits largely oblong in form, deep through, and generally ridged or ribbed; deep purple in color. They are solidly fleshy, with small seed cells; of fine sweet flavor. Planted in good soil, pruned to a single stem, fruits frequently attain a weight of one pound or more.

Tall Champion Tomato.—An unusually strong, rank grower and a heavy bearer. The fruits resemble the Dwarf Champion in color and smoothness, although they run a little larger in size. Fair average size of the fruit is 2¼ inches thick and 3¼ inches broad. Very hardy. It is also extremely prolific and certainly one of the most desirable sorts for the private garden and market use.

Two Peach Tomatoes.—They resemble a peach in shape and color. They are eaten raw or preserved. Each red or yellow.

Yellow Plum.—The fruits average 2 inches in length and 1 inch in diameter, of a bright lemon-yellow; are solid, fleshy and of excellent flavor.

Henderson's "Tenderloin" Tomato.—A sturdy, healthy grower; it ripens its first fruits immediately following those of the early sorts, and from that time until frost it is practically ever-bearing, yielding enormous quantities of tomatoes.

The fruit is borne in clusters of from 4 to 6; the individual fruit, 4 to 5 inches in diameter, run remarkably uniform in size and shape, being almost round, solid, and weigh about 1 lb. each; the surface is smooth, never cracks and the rich glossy crimson color permeates the flesh to the heart; it ripens thoroughly to the stem.

Turnip

Steekrübe (Ger.), Navet (Fr.),
Nabo Coman (Sp.)

Allow one ounce of seed to 150 feet of drill; sow one to two pounds per acre in drills

Turnips do best in highly enriched, light, sandy or gravelly soil; commence sowing the earliest varieties in April in drills, from 12 to 15 inches apart, and thin out early to 6 or 9 inches in the rows. For a succession, sow at intervals of a fortnight until the last week in May for early crop, and from August to September for late. August sowings may be made for the fall and main crops. Turnips may be preserved until spring by cutting off the tops about 1 inch from the bulb and storing in a cellar or cool shed during winter, covering the roots with dry sand; they should be harvested before severe frosts set in, for, though comparatively hardy, few of the varieties will survive the winters of the Northern States in the open ground.

Four Varieties

White Milan.—Earliest of all turnips. Best quality in its class. Fine snowy white color. The skin is smooth and neat as if polished. Foliage is short. Medium size, flesh white, tender and smooth grained. Can be used spring or fall.

Purple Top Milan.—(See Illustration.)—Almost in season with White Milan, the earliest; size medium; shape flat; skin very smooth. Surface color is white with a purple white top. White flesh, excellent quality. Very even in growth.

Early Purple Top, Strap Leaved.—This is a popular early variety, week or so later than Milan, favorite for table use. Flat like a broad disc in shape, medium size. Purple or dark red above ground, white below. Flesh white, fine-grained and tender, leaves few, entirely upright in growth. A good keeper.

Early White Flat Dutch.—Early garden variety, largely used in Southern states. Medium size, flat white; very early; sweet and tender; desirable for table use, but spongy and inferior when overgrown.

Water Melon

One ounce of seed is required for 40 hills; three pounds will plant an acre

A light, sandy soil, with good exposure to the sun, is the best for watermelons. It should be prepared deep, but receive shallow cultivation. Hoe often and thoroughly. Plant in hills 8 to 10 feet apart each way. Plant 8 to 10 seeds in a hill, and finally, when danger of insects is past, leave but three strong plants.

Four Varieties

Cole's Early. — Decidedly the finest variety for the private garden, but is too brittle for long shipments. It is very early and will mature farther north than most other sorts. Of medium size, very productive, continuing to bear throughout the season. Flesh of bright red color, of granulated, sparkling appearance. In flavor lusciously sweet and refreshing. One of the best early melons and is specially valuable for growing for home market, as it matures in advance of other sorts and has the form and color that recommend it to buyers.

Fordhook Early.—Large early sort. From seeds planted May 10, ripe melons have been produced the last of July. The rind is tough, making it valuable for shipping. Color is uniform medium green; flesh red, very sweet, solid, and of excellent quality. In markets where a solid green color is preferred the Fordhook will be a favorite.

Kolb's Gem.—For many years a favorite sort among Northern market growers. On account of its excellent shipping qualities it is extensively grown for that purpose. Nearly round; color a dark green with lighter narrow stripes. Very thin rind; flesh bright red, good flavor.

Long Light Icing.—An old standard variety, still highly regarded by market growers. It is a melon of splendid quality with the attractive bright red flesh so desirable. The fruits are large, oblong in shape, with light colored rind, making it distinctive.

ONE HUNDRED VARIETIES OF FAVORITE FLOWERS

How to Plant and Cultivate

BLOSSOMS IN COLORS SHOWN ON FOLLOWING PAGES

Abronia

Umbellata

Trailing plants with verbena-like flowers; long green oval leaves and fleshy stem lying prostrate on the ground. Very fragrant and a long time in bloom. Half-hardy annual, 6 to 18 inches high.

Culture.—Remove the husk from the seed before planting and transplant to a foot apart. They may with profit be started in a hotbed or frame and transplanted to any desired situation. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Acroclinium

Helipterum Roseum

This is one of the most beautiful of the everlasting flowers. It is of strong growth and bears a great number of pink and white daisy-like flowers. Should be picked the first day they open to secure a bright center when dried. 18 inches high. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Adonis

Pheasant's Eye

Plants with fine graceful foliage and brilliant flowers, remaining in bloom throughout the summer. Delight in a shaded position. Hardy annual, 1 foot high.

Culture.—Seeds should be planted in the autumn, as they will stand the winter well, and they are a long time in coming up. If started in-doors, young plants can be transplanted to the open as soon as warm weather appears.

Ageratum

Conyzoides

A very beautiful Mexican flower of a delicate, brush-like appearance; very attractive in the garden. They bloom all summer, and if sown in fall will give winter bloom under glass. Keep a foot apart. Annual, 1½ feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. The soil should be well pulverized and rich.

Alyssum

Maritimum

A low-spreading, light green plant with small white flowers of a peculiar delicate fragrance. Most effective in masses of plants 1 foot apart. Hardy annual. Grows 1 foot high.

Culture.—Sow out of doors after danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Amaranthus

Candatus

Foliage brilliantly ornamental, producing a striking effect in the border, as a background, or as centerpiece for beds, and is the peer of variegated-leaved plants. Annual. Should be thinned to 3 feet apart. Two to 3 feet high.

Culture.—Seeds should be sown early in a warm hot-bed; when started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Ampelopsis

A well-known, popular climbing plant, clinging to any surface and growing to a height of 30 to 50 feet. Foliage beautiful in autumn. Plant early in spring in hot-bed and transplant when well established to the place where it is to grow.

Antirrhinum

The antirrhinum, perhaps better known by its old and popular name, snapdragon, is an old favorite border plant. Succeeds best in dry, loamy soil. Tender perennial, 2 feet high.

Aster

The aster is considered the queen of all fall flowers. For beauty and variety of form and color it is unrivaled, and of all flowers is best adapted to win the admiration of all lovers of floral beauty. Set a foot apart. Height 1½ feet. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich well-pulverized, garden soil should be prepared for them.

Bachelor's Button

Centaurea Cyanus

Old-fashioned, but one of the most popular. Its slender branching stems bear enormous heads of bright flowers, which bloom until frost and come up in the spring from self-sown seed. Annual, 1 foot high.

Culture.—To get good plants for setting out, seed should be sown in January or February, in window boxes or green-house, young plants can be transplanted to the open as soon as warm weather appears.

Balsam

Lady Slipper

An old and favorite garden flower, producing its gorgeous masses of beautiful, brilliant-colored double flowers in the greatest profusion. Half hardy annual, 2 feet high.

Culture.—Careful growers never use seeds less than three years old. Plant in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather comes.

Balsam Pear

Charantia Balsamina

Very curious, rapid and dense climber with ornamental foliage. Its large, golden yellow fruit opens when ripe and displays its brilliant blood-red inside. Hardy annual, 10 feet.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Bartonia

Bartonia Aurea

Bartonia aurea is a very showy, half-hardy annual from California. The leaves are somewhat thistle-like in appearance, gray and downy. The flowers are of a very bright metallic yellow and exceedingly brilliant in the sunshine. It likes considerable moisture.

Begonia

One of the leading and most beautiful window plants. Are of easy culture and produce a profusion of elegant flowers. Seeds are fine and require care in sowing.

Succeeds best with greenhouse culture, and needs to be grown in loam, peat and sand mixed.

How Grow One Hundred Varieties of Favorite Flowers

Browallia

A favorite, profuse-blooming plant covered with beautiful flowers during summer and autumn until frost. In transplanting keep a foot apart. Annual, 1½ feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in window-box or hot-bed, transplant into similar boxes when the seedlings have formed two or three leaves. They may be finally transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Cacalia

A very pretty and showy plant with flowers borne in clusters on slender stalks about a foot in height. They keep in bloom from early summer until autumn, furnishing flowers for cutting every day. Annual, 1½ feet high.

Culture.—Can be grown readily from seed sown where the plant is wanted to grow, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Calendula

Officinalis

(Pot Marigold)

One of the easiest grown, brilliantly showy, and free-flowering plants, producing a fine effect in beds or borders. Blooms all the time; fine for cut flowers. Hardy annual, 1 to 2 feet high.

Culture.—Sow the seeds out of doors, in a rich soil, after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears.

Calliopsis

Or Coreopsis

Showy and free-flowering plants, blooming all summer and excellent for cutting and massing. Annual, 1 to 2 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Canary Bird Vine

Tropoeolum Peregrinum

A beautiful climber, the charming little canary-colored blossoms bearing a fancied resemblance to a bird with its wings half extended. Grows to a height of 20 feet. Annual.

Culture.—Seeds should be started in-doors, young plants can be transplanted to the open as soon as warm weather appears, and placed near some trellis or other support, which they will soon cover.

Candytuft

Hardy

A handsome, compact-growing plant and considered the best spreading dwarf plant with white flowers. Now developed in tints of pink and blue. Well adapted for permanent front rows of borders, clumps or beds. Few hardy plants will give as much satisfaction as this little gem.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Canna

Stately plants with foliage of elegant growth, presenting a luxurious and tropical appearance. Much employed in ornamental planting, and are very effective planted in clumps. Height 3 to 5 feet. Annual. Keep a foot apart.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best. Soak seed thoroughly in warm water before planting. The roots can be kept in the cellar over winter.

Canterbury Bell

Campanula Medium

This old-fashioned flower is a favorite with all. A free bloomer with flowers large and bell shaped. Borne on stately stalks. One to 4 feet high. Biennial. Thin to 12 inches apart.

Culture.—The seed should be planted early in spring, in open ground, and will blossom before fall. The plants will bloom again the following year, but the young plants bloom best and seed should be sown every spring.

Carnation

Marguerite

These are a comparatively new class of carnations. They are highly prized for massing in summer beds, and their perfect form, beautiful shades of color and lavish profusion of bloom continue till frost, or continue in-doors. Semi-dwarf, 10 to 15 inches high. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Catchfly

Silene Armeria

An easy-growing, free-flowering plant, producing dense clusters of blossoms. The plant is covered with a glutinous moisture from which flies cannot disengage themselves, hence the name. Hardy annual, 1 foot high.

Culture.—Sow out of doors when danger from frost is over. They can also be sown in shallow boxes (2 inches deep) in the green-house, hot-bed or light window of dwelling, if desired early, and transplanted to flower beds at the beginning of warm weather.

Celosia

Feathered

Annual plants of tropical origin and one of the most showy for garden decoration. Half hardy; should not be sown till warm, settled weather. Of easy culture.

Centranthus

The flowers of the centranthus are small, borne in clusters on light green, transparent stems. They form beautiful masses or borders, and for cutting, for bouquets or other floral work are excellent. Annual, 1 to 2 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Chrysanthemum

These showy and effective garden varieties are extensively grown for cut flowers. The foliage is ornamental and finely cut. They grow 16 to 18 inches high and blossom in fall. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. If possible plant in a warm, sheltered spot, since they will bloom up to November.

Clarkia

A very bright and attractive flower which is a great favorite in England. Blossoms are borne on long, graceful sprays and are especially valuable for cut flowers, as all the buds open in water. Hardy annual, 1½ to 2½ feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

How Grow One Hundred Varieties of Favorite Flowers

Clematis

These flowering vines are universally admired for their quick growth, fragrance and superb blossoms; fine for trellises, arbors, and rockwork. Transplant in the open ground in early summer. Hardy perennial.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Mixed Climbers

A mixture of many varieties of climbing plants which will produce the most gorgeous effect. When the space to be planted is limited this will save expense in purchasing so many varieties. Plant in spring where they are to remain; the soil should be rich and deep.

Clintonia

Hardy annual. Dwarf growing plants for summer use, of all shades of color. Well suited for rockwork, etc. Six inches.

Cobœa

Scandens

A fine climber with handsome foliage and large, bell-shaped flowers. Always clean of insects. Place seed edge down. Grows 15 to 20 feet. Annual.

Culture.— Seeds should be sowed in March, in light, rich soil, over gentle heat, a sunny window with south or southeast exposure is excellent. The seedlings potted in small pots and when about a foot high planted out of doors.

Cockscomb

Celosia Cristata

Highly ornamental plants producing crested heads of flowers somewhat resembling a cock's comb. Plenty of moisture and frequent transplanting is important. Should be 3 feet apart. Half-hardy annual, 1 to 2 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Coleus

The elegantly marked leaves of the coleus are now familiar to all, and are seen in almost every bed of ornamental-leaved plants. To have fine plants by the last of May, seed should be sown during March or early in April, in shallow boxes of rich soil, in the sunny window of a warm room, and the young plants grown in pots as soon as they are large enough to transplant from the seed-boxes.

Columbine

Aquilegia

One of the most popular perennials, easy of cultivation and flowering from early summer until frost. Very desirable for borders and groups among shrubbery. One to 3 feet high.

Culture. — Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Convolvulus

Minor

Dwarf Morning-glory

This is a dwarf species of the old-fashioned morning-glory. Of trailing habit, each plant covering about 2 feet. Very useful for low trellises or rockwork. Hardy annual, 2 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Cosmos

Compositae

None of our autumn flowers are more prized than these graceful and brilliant garden plants. It has long stem and feathery foliage, and continues to blossom in fall till freezing weather. Four to 5 feet high. Annual. Keep about 18 inches apart.

Culture.—Seeds may be planted in the open ground in the autumn if the young plants can be protected during the winter. If started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Dahlia

In the Dahlia are combined more desirable qualities than almost any flower grown in open ground. Produces blossoms of every color and combination from early summer till frosts, and is unsurpassed as a cut flower. Half-hardy perennials growing from 4 to 6 feet.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protetcion.

Datura

Trumpet Flower

Very large, showy, branching plant bearing large trumpet-shaped flowers about the size of a calla lily and having a faint perfume. Grow about 3 feet high. Hardy annual. They need lots of room, at least 2 feet each way.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Dianthus

Or Pinks

A great variety of rich, brilliant colors, shades and markings; plants in bloom constantly from early summer till after severe frosts. Twelve to 18 inches high. Annual.

Culture.—Sow seed out of doors after danger from frost is past. For early flowering seedlings can be started in-doors; young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Double Daisy

Bellis Perennis

Charming little plants for pots, borders and edgings. The flowers are abundant during the spring and continue blossoming all summer. Height about 6 inches. Keep about 6 inches apart. Perennial.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Eschscholtzia

California Poppy

A most popular garden flower, very attractive as an edging because of its bluish foliage. It stands considerable cold and blooms after the first frosts, but does not bear transplanting well. Height 10 to 20 inches. Hardy annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Forget-Me-Not

Myosotis Alpestris

The forget-me-not is an old favorite plant, bearing clusters of star-shaped, delicate blue flowers. Plants 3 to 8 inches high. Hardy perennial.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Four O'Clock

Mirabilis Jalapa

A very handsome, erect, bushy, quick-growing herb, bearing very profusely in late summer and fall. The flowers open in cloudy weather or late afternoon and close in the morning. Two feet high. Annual.

Culture.—The seeds should be planted in May where they are to grow. Or if started under glass they may be transplanted out of doors in May along with dahlias. In the late fall their tuberous roots should be taken up for planting the next year.

Fox Glove

Digitalis

A very beautiful and interesting old-fashioned plant whose culture is very simple. The bell-shaped flowers borne on long spikes make an exceedingly handsome and stately border. Keep plants 2 feet apart. Height 3 to 5 feet. Hardy biennial.

Culture.—The seed should be planted early in spring, in open ground, and will blossom before fall. The plants will bloom again the following year, but the young plants bloom best and seed should be sown every spring.

Fuchsia

Well-known plants of easy culture in pots for parlor or conservatory decoration, or in the open border; easily grown from seed. The seed is very fine and needs careful handling. Sow in finely prepared soil and transplant afterwards.

Gaillardia

The flowers are some 2 or 3 inches across, semi-globose, dense, and therefore very showy. It is a valuable and beautiful addition to the hardy border flowers. Good bedding annuals. Constant bloomers. Set plants 12 to 18 inches apart.

Geranium

Pelargonium

These universally admired plants are easily grown from seeds and bloom the first season. Their brilliancy and succession of bloom, together with their marking, make them invaluable for either beds or pot culture. Half hardy perennial, 1 to 2 feet high. Will not winter out of doors in the northern states.

Culture.—Easily grown from slips but seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Gladiolus

Gladiolus, Different Sorts

For best results they should have a sunny position, a loam suits them best, but they do equally as well in clay if there is perfect drainage. Well-rotted stable manure is a good fertilizer, and where convenient it should be spread over them in the fall, and dug in the following spring. Sheep manure is an excellent substitute, and can be applied in the spring. The time to plant is about the first of May, putting in the small bulbs first, and reserving the larger bulbs for later planting. A succession of bloom may be had from July to October by having plantings two weeks apart up to the end of June. To have a good show they should be planted from three to four feet apart each way. The depth to plant is regulated by the size of the bulb, the large bulbs being covered about six inches, the smaller ones from three to four inches.

After they have flowered and the foliage begins to turn yellow, which is usually along about the beginning of October, lift the bulbs, cutting off the stems, placing them in trays or shelves in an airy cellar or some such place, where the temperature will not fall below 45 degrees, or rise over 60 degrees. In such a position they will keep perfectly until time for resetting the following season.

They are very effective in lines or beds or when planted among Roses, Peonies, Shrubbery, etc.

Globe Amaranth

Gomphrena Globosa

Everlasting Flower

An excellent everlasting, or immortelle; flowers globe shape, purple, orange, and variegated. Retain their shape and color when dried; are also good for cutting as fresh flowers. Height, 18 inches.

Culture.—Sow in boxes, in a warm place; soak the seed in warm water a few hours before sowing; transplant to one foot apart.

The flowers should not be picked for drying until they are fully matured the last of summer.

Godetia

A beautiful new variety; the plant of neat, dwarf, compact habit, with a profusion of rich carmine-crimson flowers, produced in a succession of bloom through the summer, until frost.

Culture.—Sow in finely prepared soil, in the garden, late in spring; transplant into good soil, about eight inches apart.

Gypsophila

Height one foot

Small, white, fragrant flowers, borne on long, feathery stems. No flower adds more of light and grace to a bouquet than this, and when once grown, will be found indispensable. In bloom through the summer from the first of July till frost. Although not belonging to the Immortelle class, the flowers dry finely, and are very desirable for winter bouquets.

Culture.—Sow in open ground, early, and transplant to six or eight inches apart, in common soil.

Helichrysum

Ornamental in the garden and desirable for winter bouquets.

Heliotrope

A well-known and popular plant, fine for bedding, vases and baskets, and exquisite for pot culture in winter. Flowers borne in trusses and exceedingly fragrant. 6 to 18 inches high. Half-hardy perennial.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Hibiscus

Tall growing branching plant of the easiest culture with handsome foliage and large bell-shaped flowers, measuring from 5 to 7 inches across. Blossoms all season. Height 4 to 5 feet. Keep a foot apart. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Hollyhock

Althea Rosea

The hollyhock is an old garden favorite. The tall stately spikes bear immense quantities of blooms of the most brilliant colors and, in the double variety, they are as double as a rose. Plant 3 feet apart and water freely. Height 5 to 6 feet. Hardy perennial. A row of hollyhocks makes an attractive screen to shut off an undesirable view or along a fence.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Honeysuckle

French

A beautiful hardy perennial plant, grown in borders about 3 feet in height. The flowers are red and white.

Hyacinth Bean

Dolichos Lab-lab

A splendid climber, with hyacinth-like clusters of flowers which are followed by exceedingly ornamental seed pods. Is of rapid growth and stands heat well, but not the cold. Half-hardy annual, 10 to 20 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Ice Plant

Mesembryanthemum Crystallinum

A very pretty trailing plant that has fleshy, wax-like leaves which have the appearance of being covered with ice crystals. Start indoors. Annual. 6 inches high.

Culture.—Sow in a light soil in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

English Ivy

Hedera Canariensis

An old popular and excellent variety for cultivation in the house, being a free grower and very beautiful; broad, glossy green leaves. For indoor decoration the Ivy is unequaled, as it can be trained in any desired form, and will bear any amount of hardship and bad usage. The Ivy is not quite hardy for the North, but plants that have done service in the garden all summer can be taken up in the autumn and potted for the house. In the spring the plants can be transferred to the garden by just sinking the pots in the earth. In the autumn they are ready for service in the house again, and better than ever.

Japanese Hop

Humulus Japonicus

An unusual beautiful variety of rapid-growing climbing vine. Leaves deep green, beautifully striped with silvery white. Reaches a height of 15 to 20 feet in remarkable short time. Annual.

Culture.—Seeds should be planted out of doors only after all danger of frost is over, or if started in green-house, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Lantana

Popular and rapid growing plants with large heads of variously colored and perfumed flowers. The bushy plants are completely loaded with blossoms which are succeeded by green berries which turn to a deep blue when ripe. Half hardy perennial. 2 feet high.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Larkspur

Delphinium or Hardy

A most deservedly popular plant in the hardy border and garden. The bold attractive spikes make a splendid appearance. There is no hardy perennial more easily raised and grown.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Lilies

Lilies thrive best in a dry, rich soil. They should be planted deep, 4 to 6 inches, as they form two sets of roots, one below, the other above the bulb. It is well to protect them with a covering or litter of straw.

Lily of the Valley

The well known and beautiful white sweet scented flower. Hardy.

Linum

Linum grandiflorum rubrum.

Distinguished for their brilliant-colored flowers, which are deep crimson with black center, saucer-shaped, and very conspicuous in beds and border. The foliage of the plant is slender and delicate, and the flowers produce very little seed. If the seed be sown in hot-bed and the plants transplanted into good rich soil, one foot apart, the period of flowering will be much advanced, but the seed can be sown in open ground after the weather is warm. Hardy annual, 1½ feet high.

Lobelia

Exceedingly pretty, profuse blooming plants, useful both in the garden and for hanging baskets, window boxes and vases, or edgings and beds. About 6 inches high. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Lupin

Perennis

Very desirable garden plants, showy and excellent for cutting. Graceful spikes 2 feet high in various colors. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Lychnis

Lychnis Chalcedonica

Few plants produce as bright flowers and bloom as continuously as Lychnis. For massing in beds and borders it has no equal. Hardy perennial. In transplanting keep 1 foot apart. 2 feet high.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Marigold

Tagets Erecta, African

These old fashioned favorites are hardy annuals of the easiest culture. A beautiful plant forming a globular compact bush covered with rich, golden, double flowers. Especially fine in mixed borders. Height 3 feet. When transplanting keep 6 inches apart.

Culture.—Seeds should be planted in the open ground after all danger of frost is over; if desired early, start in window-box; plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Maurandia

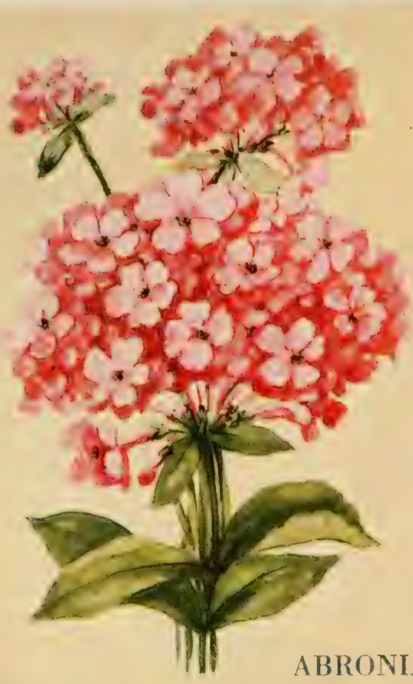
Barclayana

Height Five to Eight Feet

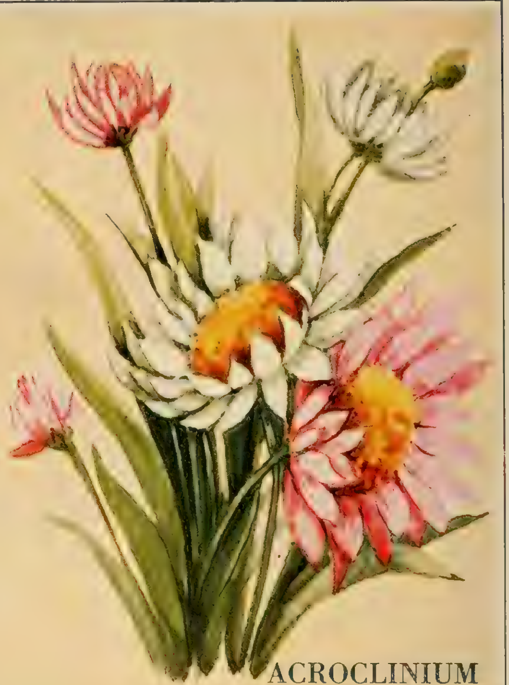
An elegant climbing, greenhouse perennial, but can be grown from seed, and brought forward so as to branch and flower profusely from middle of summer till frost, the first season, in the garden. One of the most popular climbers for piazza decoration.

One Hundred Varieties of Favorite Flowers

Directions
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME



ABRONIA



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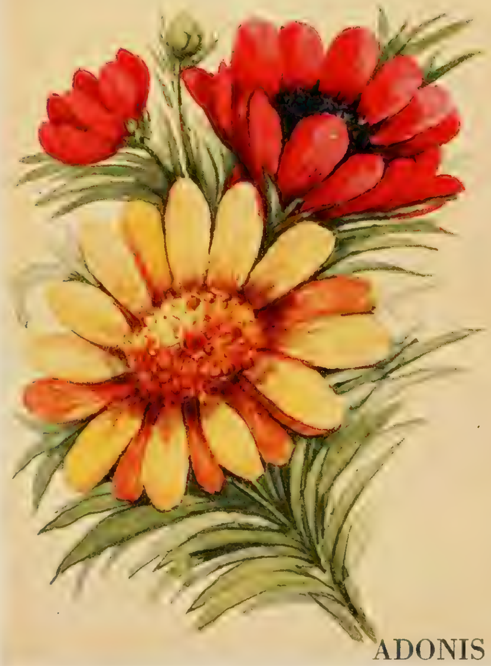
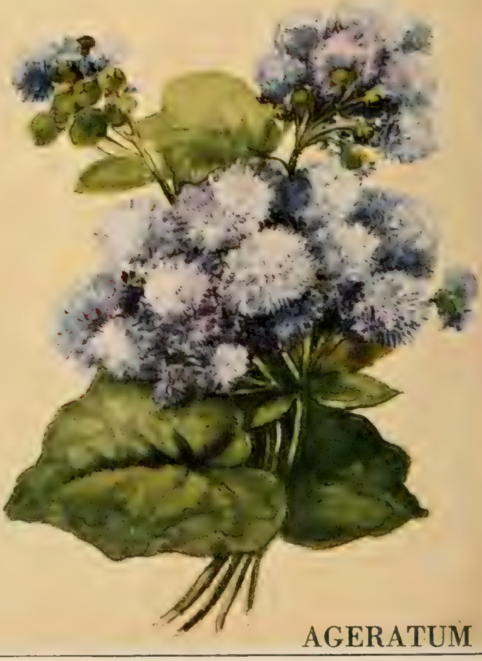


ADONIS



AGERATUM

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ALYSSUM

AMARANTHUS

AMPELOPSIS

ANTIRRHINUM

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ASTER

BACHELOR'S BUTTON

BALSAM

BALSAM PEAR

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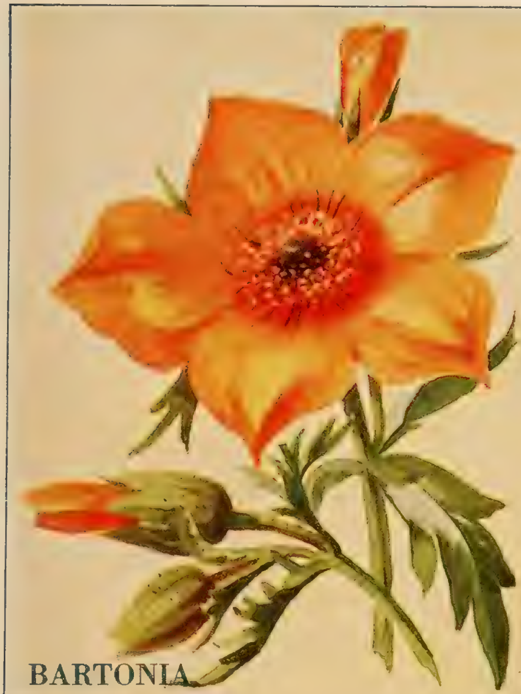

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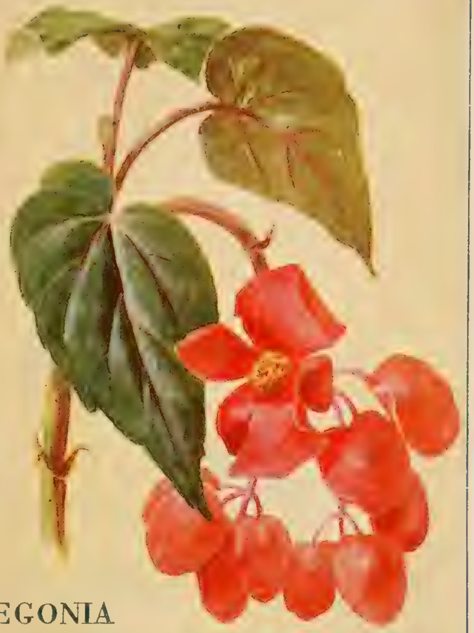

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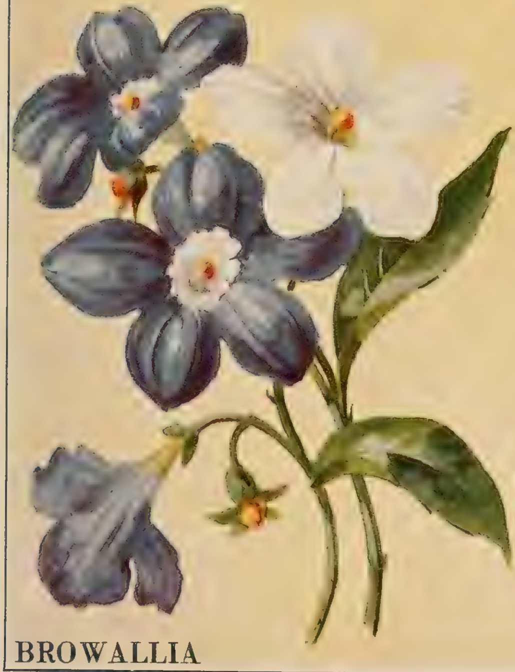

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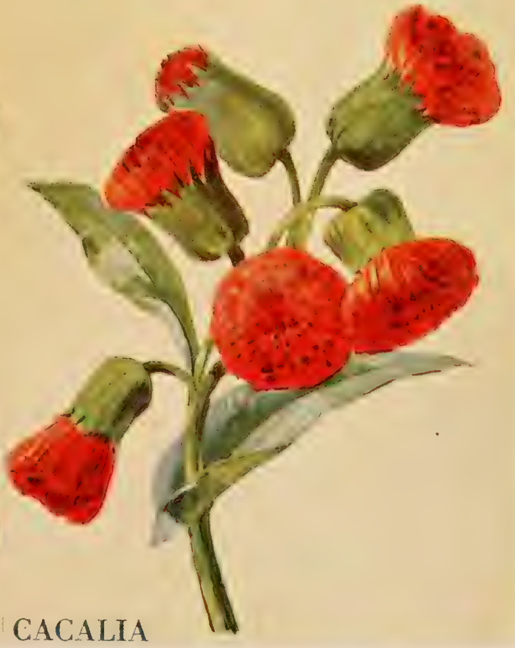

CACALIA

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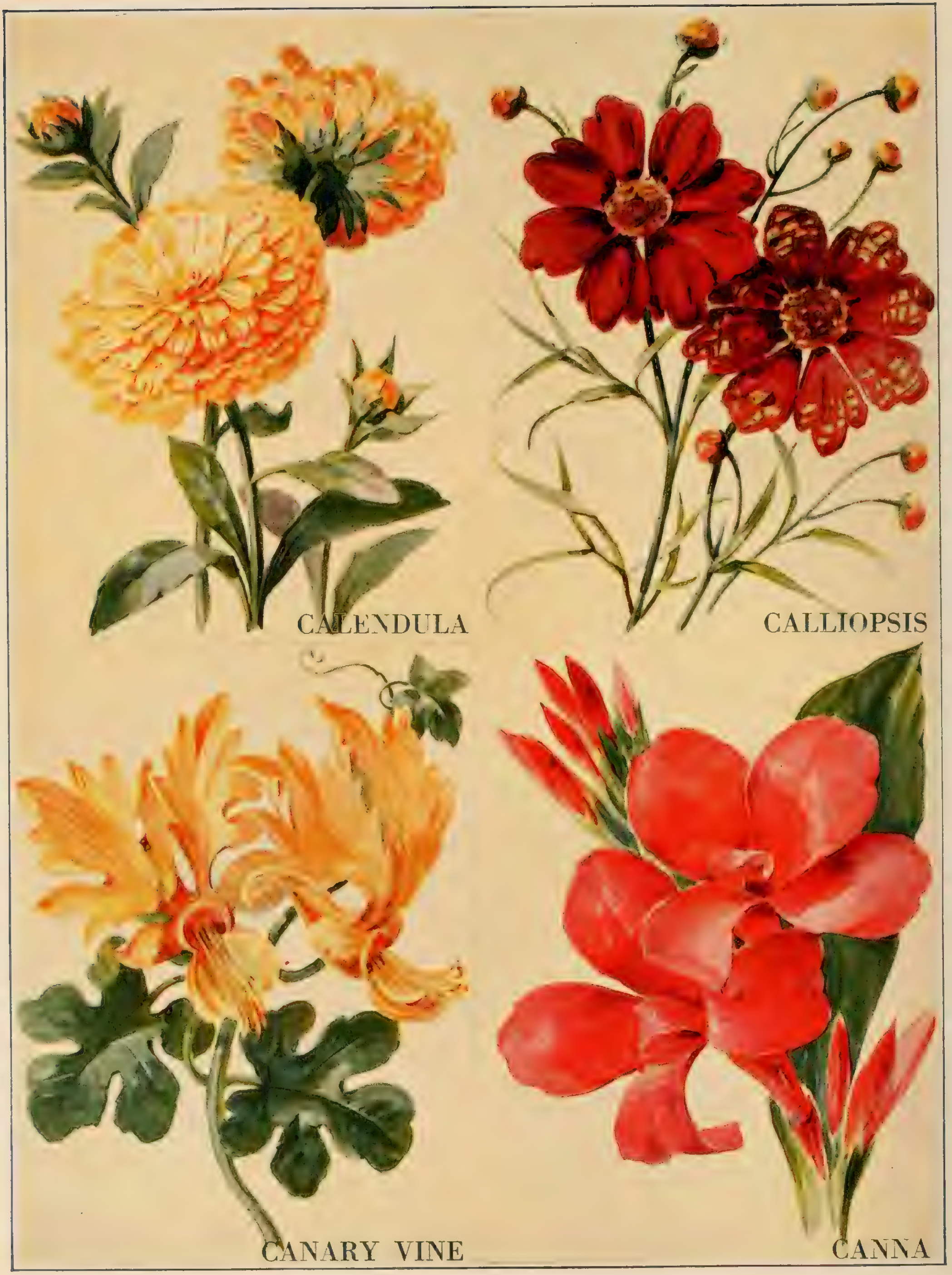

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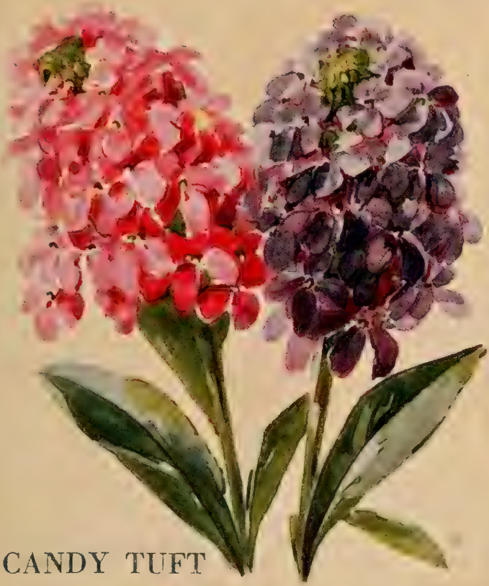

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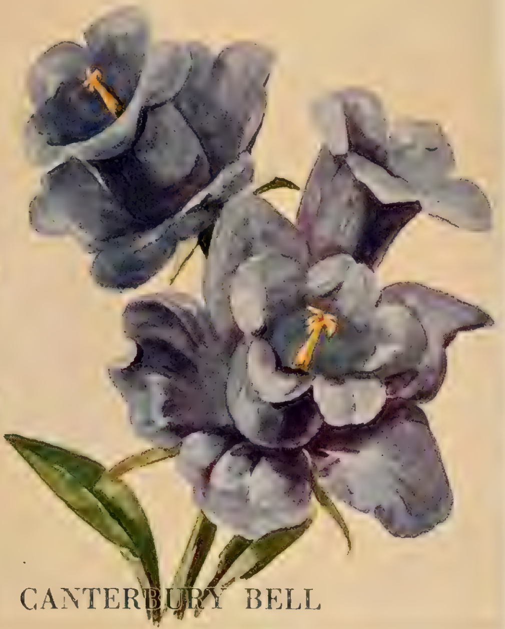
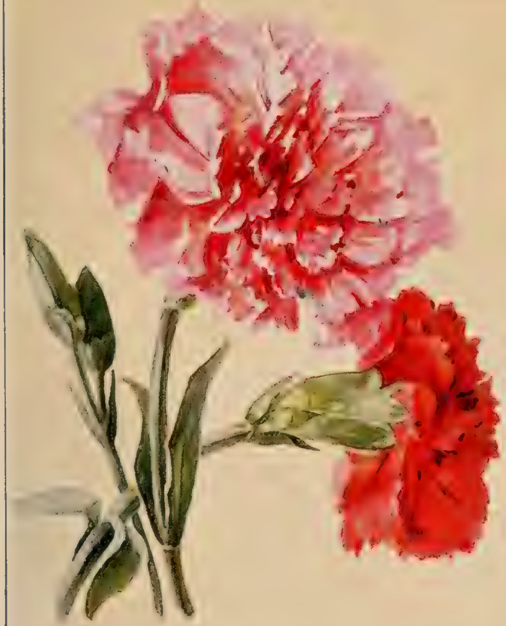


CANTERBURY BELL



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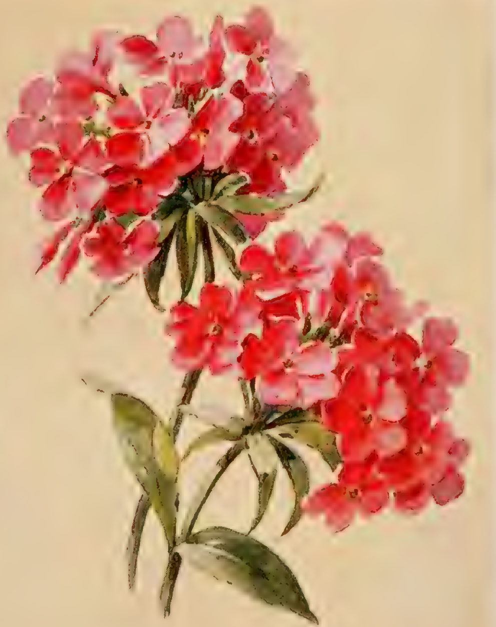

CATCHFLY

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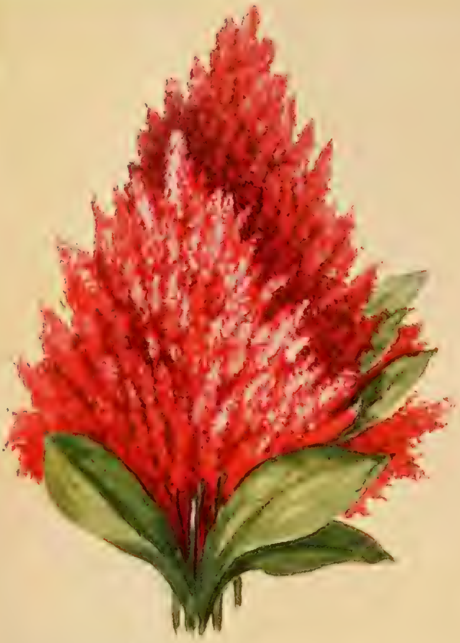

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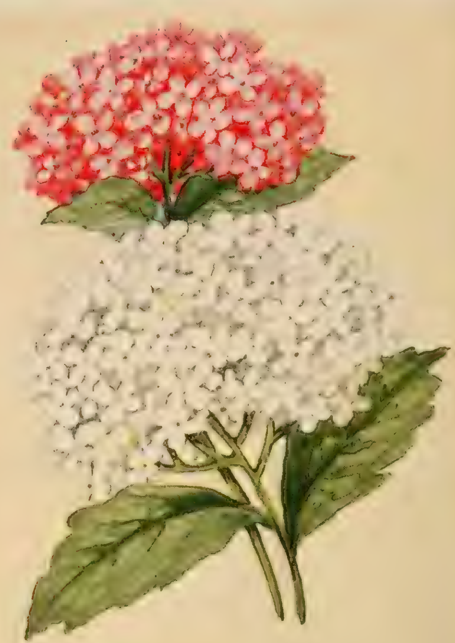

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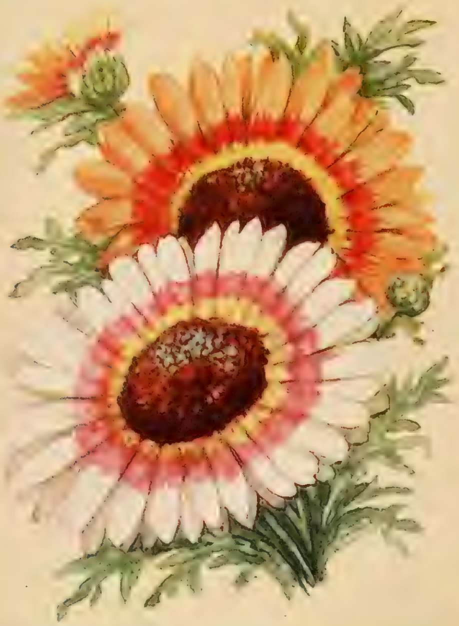
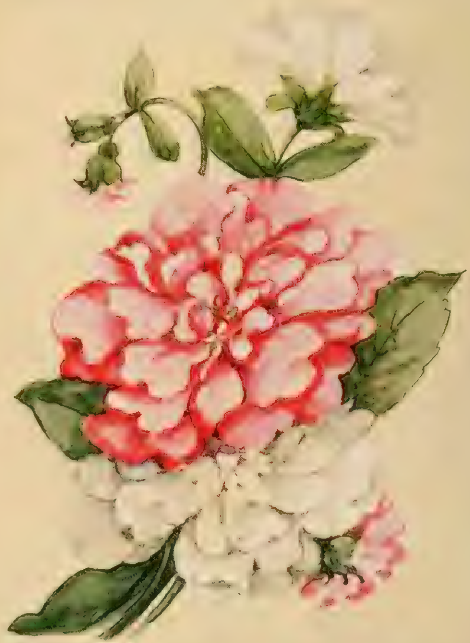


CHRYSANTHEMUM



CLARKIA

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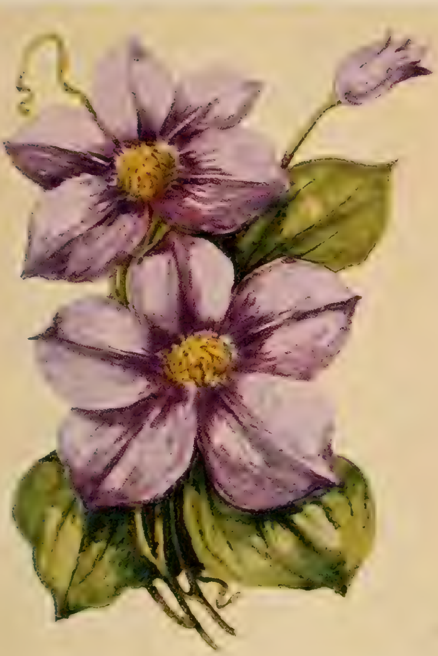
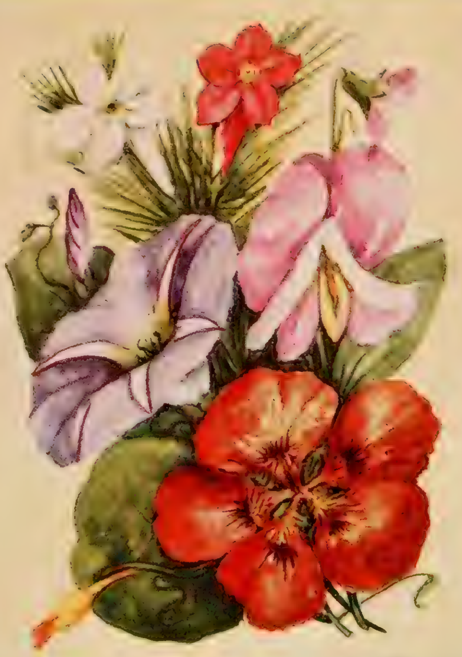
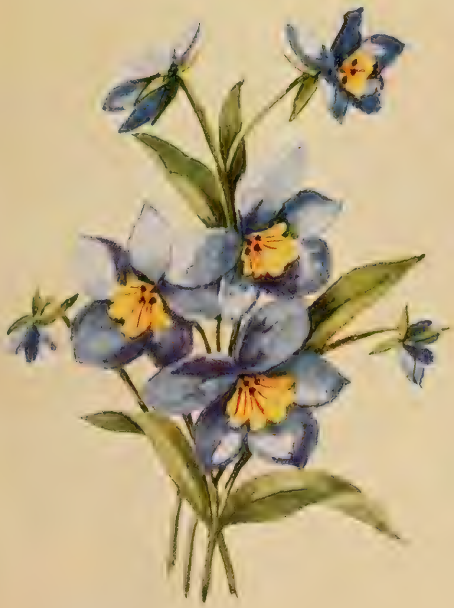


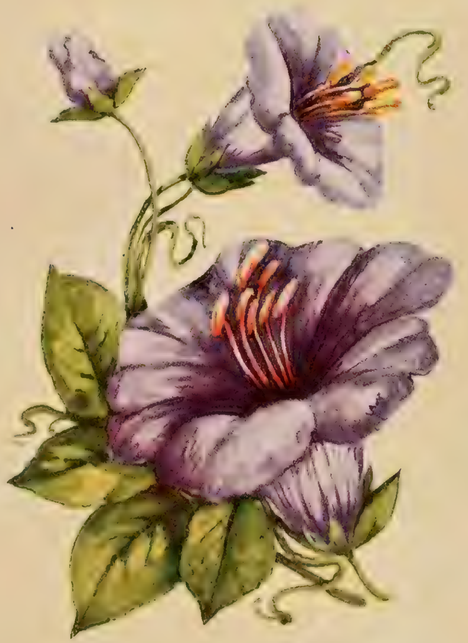
CLEMATIS



CLIMBERS



CLINTONIA



COBOEA

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COCKSCOMB

COLEUS

COLUMBINE

GOMPHRENA

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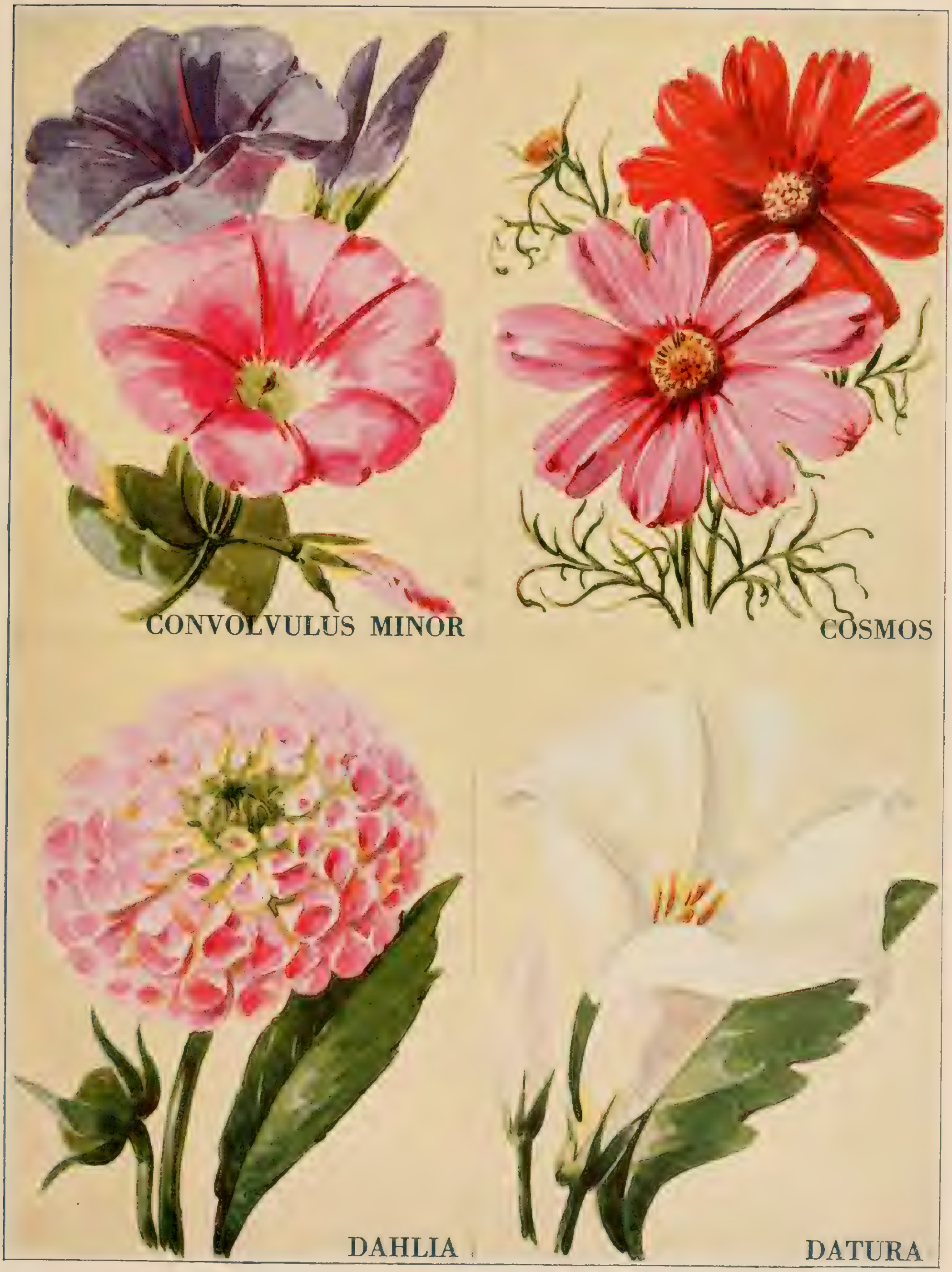
Directions

HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME



CONVOLVULUS MINOR

COSMOS

DAHLIA

DATURA

One Hundred Varieties of Favorite Flowers

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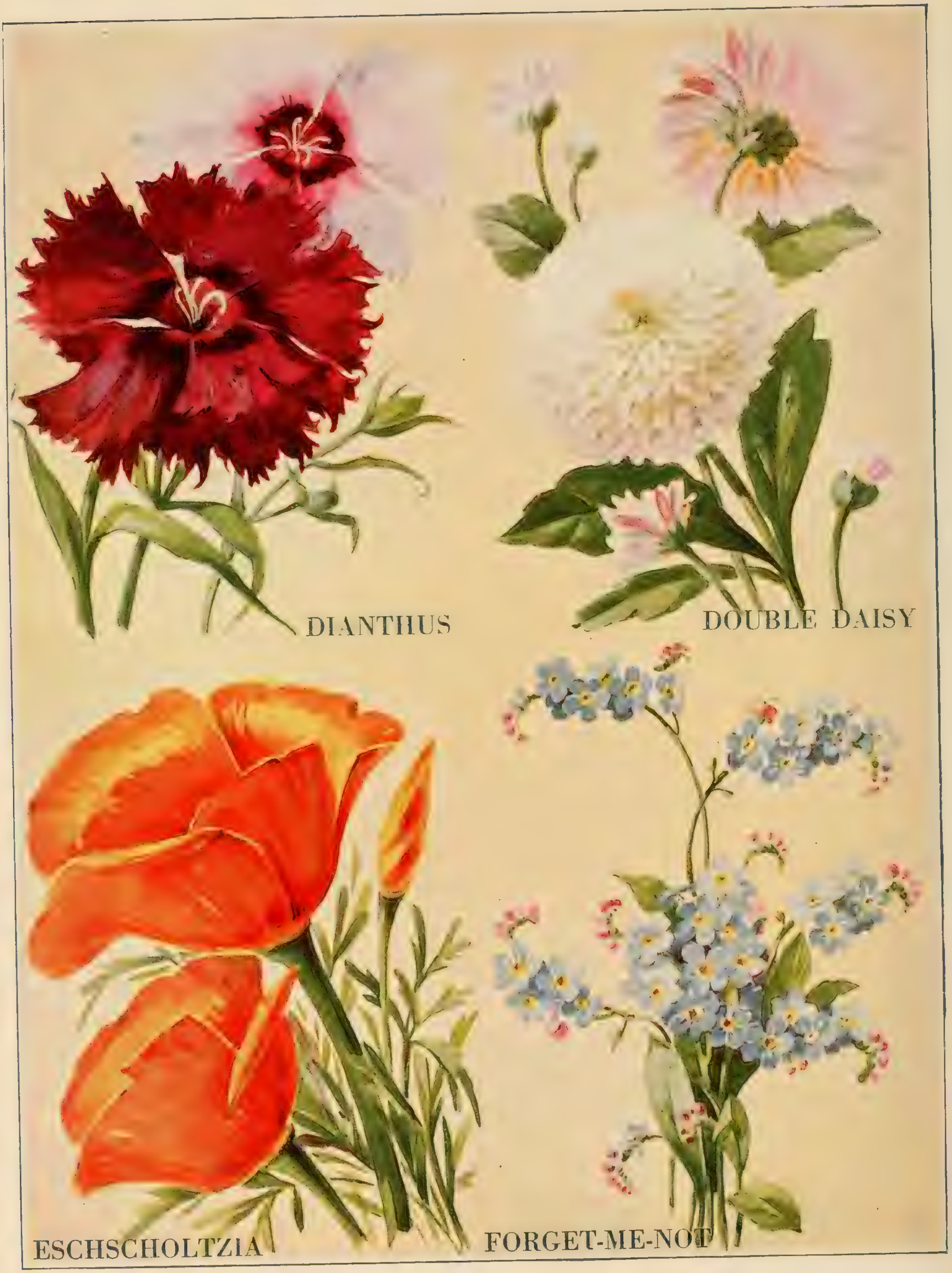


Culture.—Sow early, in-doors; transplant to open air late in spring. The plants produce a profusion of rich purple, rose, etc., fox-glove-shaped flowers, with abundant foliage, through the season till frost.

Mignonette

The mignonette is a universal favorite and no other flower is so generally known for fragrance. The dense semi-globular heads of flowers are borne on stalks about six inches high making the whole plant reach 1 to 1½ feet. Hardy annual.

Culture.—Seeds may be sown out of doors at any time after danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Ipomoea (Moon Flower)

Tall-growing annual climbers, related to the family of Morning Glories. As Moonflower plants have dense foliage, they are useful to cover trellis work, verandas, etc. Plant seed out-of-doors when warm weather sets in. Soak them first.

Morning Glory

Convolvulus Major

One of the most free flowering and rapid growing annual climbers thriving in almost any situation. Its delicate flowers are very brilliant and beautiful with a wide range of tints and markings. Annual. Supply a support early, use either wire, cord, or trellis. Height 10 to 15 feet.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or for early blooming plants may be started in-doors and transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure, is best.

Soak seed in warm water for an hour or two to hasten germination.

Mourning Bride

Scabiosa

One of our handsomest summer border plants, producing in great profusion very double flowers in a great variety of shades and colors. Excellent subjects for cut flowers, lasting nearly a week after being cut. Thin to 6 inches apart. Hardy annual. 1 to 2 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. The soil should be rich and well pulverized.

Musk Plant

Mimulus Moschatus

The musk plant is grown for its scented foliage and pale yellow flowers; is of trailing habit and makes a fine showing in hanging baskets. Plenty of moisture and a shaded position is important. Perennial with trailers about 9 inches long.

Culture.—Seeds may be sown very early in spring, so plants will blossom in fall, or started in late summer, so that good, healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Nasturtium

Tropaeolum Minus

The Dwarf or Tom Thumb Nasturtiums grow about 1 foot in height and very compactly and are used for beds, borders, and massing. They thrive under all conditions and always make fine displays of rich brilliant flowers. Annual.

Culture.— Sow in drills about an inch deep, in light rich soil, when all danger of frost is over, and train the Tall on trellises or over fences, and the Dwarf in beds or to make borders for the beds.

Nicotiana

A most striking, bushy, much branched plant, literally ablaze with blossoms from base to summit; deliciously sweet fragrance. Thrive in a hot sunny position. 2 to 4 feet high. Half hardy annual.

Culture.—Seeds should be planted in shallow boxes of light soil indoors, young plants can be transplanted to the open as soon as warm weather appears; they may also be sown out of doors after danger from frost is over.

Nigella

Love-in-a-Mist

Nigella Damascena

A popular old fashioned flower, with finely-cut foliage surrounding the curious looking flowers and seed pods. Makes pretty edgings for walks or borders. Hardy annual. 1 foot high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Pansy

These lovely flowers are favorites with all, not only for the brilliancy and variety of their colors, but for the durability of their bloom. Seed may be sown in open ground in spring or summer, or in hot-bed early in spring. Young plants produce the largest and best flowers. The plants should always occupy a cool, partially shaded situation, and the ground cannot be too rich; coolness and moisture are necessary. Transplant when an inch high. Seed sown in early summer will blossom late in autumn; if sown in fall will blossom the following spring. Hardy biennial; 4 inches high.

Passion Flower

Hardy Passion Vine

A beautiful climbing vine producing peculiar shaped flowers. Perennial.

Peonies

There is no hardy perennial which equals the Peony in beauty and usefulness. Once planted, the plants and flowers increase in size and beauty with age. They are as hardy as oaks and as handsome (many as fragrant) as roses. When the plants are through blooming they are as handsome and ornamental as most of the hardy shrubs. The plants are practically immune from insects. We would advise our readers to beware of "cheap" Peonies. An inferior variety will take as much care and space as a choice one, and the first cost of a Peony is nothing compared to the disappointment after years of waiting.

Planting.—An important point to observe is not to plant too deeply. The roots should be placed so that the crowns (or eyes) are covered with two or three inches of soil. Planting too deep is often the cause of shy blooming.

Plant with southwest or west exposure, as early as possible in the spring as they sprout very quickly.

Small—divided roots, 3-5 eyes.
Medium—1 and 2 years from division.
Large—4 and 5 year old clumps.

Petunia

Petunias are unsurpassed if indeed equalled for massing in beds. Their richness of color, duration of bloom and easy culture will always make them welcome and popular. 1½ feet high. Hardy annual. Transplant 18 inches apart.

Culture.—Seeds should be planted in the open ground only after danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Phlox

Star Shaped

For a splendid mass of color and a constant display, the Phlox is unequalled. These flowers differ from the Phlox drummondi in their long pointed petals, giving a star like appearance. Plant, compact and dwarf. 6 inches high. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Pink

Hardy Annual

Some of the colors are various tints of rose, maroon and purple, richest velvety crimson, beautifully fringed varieties, vivid crimson lake, etc., etc.

The Pinks belong to the same class as Carnation, Sweet William, etc., but, unlike them, bloom the first season; very effective in beds or borders; flowers very double, of remarkably rich colors and markings.

Culture.—Sow seed in garden in spring, when the ground has become warm; thin, or transplant when 2 inches high to 4 inches apart.

Poppy

Papaver

The marvelous development of these old-fashioned flowers has made them deservedly popular. The individual flowers are large and elegant, with crinkled petals which appear in the sun like crumpled satin. Grow ½ foot in height. Annual.

Culture.—Seeds should be sown in the open ground as early in the season as practicable, in beds of well pulverized soil. The plants should remain where sown, as they do not easily stand transplanting. Thin out carefully so as to disturb the remaining plants as little as possible.

Portulaca

Double rose-flowered, seven different colors, crimson, rosy purple, white rose, striped with carmine, orange, yellow. The double varieties of this charming plant are most beautiful and should be in every flower garden. The blossoms are perfectly double, about the size of a silver dollar, and the colors are white, yellow, scarlet pink striped, etc.; a bed of them in bloom presents a gay appearance. Select a light and sandy soil, with a full exposure to the sun; they will stand any amount of dry, hot weather. Sow after the ground is warm, in beds or masses. Tender annual; 9 inches high.

Evening Primrose

Oenothera Biennis

Beautiful low growing plant producing numberless blossoms borne in spikes. The flowers are fully expanded only towards and during the evening. Annual 2 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Primula

Japonica

A beautiful and profuse flowering plant of free, vigorous growth with dark green foliage, and large flowers in a variety of color. Blooms early in summer. Plenty of moisture is needed. 1 to 2 feet tall. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich friable loam is preferable.

Pyrethrum

Feverfew

Parthenium

A very fine hardy plant with stems about 2 feet high, surmounted with handsome flowers in the brightest shades. In bloom a long time and are splendid as cut flowers. Hardy perennial.

Culture.—Seed may be sown very early in spring so plants will blossom in fall or started in late summer so that good healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Ricinus

Castor Oil Bean

Mixed Colors

Grown as single specimens and on lawns and pleasure grounds, they form a striking feature.

Tall, majestic plants with leaves of glossy green, brown or bronzed-metallic hue, and long spikes of prickly capsules of scarlet and green. An elegant plant for a lawn, and of very quick growth in rich soil. Plant in hot-bed, and transplant when three leaves have formed, or plant where they are required. Tender annual; 8 to 10 feet high.

Roses

More than two hundred varieties of Hybrid Perpetual Roses are listed by one of the largest nurseries in the United States, and the number is constantly being increased. Many well-known favorite Roses of this class safely endure the winter south of Philadelphia, but are not sufficiently hardy for the western and north-western latitudes.

Roses should be planted in the spring just as soon as the ground can be worked, and carefully handled as they are plants that need attention when planted. Select a good sunny location where the soil is well drained, and should the soil be heavy or clayey, some sand should be put with it. A good plan is to take out the soil from 18 inches to 2 feet deep, and in the bottom place from 10 to 12 inches of well-rotted cow manure and sod, then place the black earth that was taken out, on top of this.

Culture.—In planting Dormant Roses (nearly all of which are grafted plants) care should be taken to have the budded part set two or three inches below the surface of the ground, and the soil pressed firmly about the stem. Dormant plants produce better flowers and make stronger plants than those grown from cuttings. Plant fifteen to eighteen inches apart.

Before winter sets in the bushes should be covered, and the best method is to dig a small trench close to the plant, by setting a spade 6 to 8 inches back of the plant and pushing it into the ground about 10 inches, cutting off the roots, then push the plant bodily into the trench and cover same with building paper three or four thicknesses, using earth to hold it in place.

Salpiglossis

A very showy bedding or border plant, flowering from July to early autumn. The exquisite beauty of the flowers with their rare combination of color is a revelation. Transplant to a foot apart. Half hardy annual. 1½ to 2 feet high.

Culture.—Sow seed in shallow boxes of light soil in a temperature of from 60 to 70 degrees in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Salvia

One of the handsomest flowering plants we have for garden decoration blooming in spikes from midsummer until killed by frosts. Their compact bushes literally ablaze with brilliant flowers really have no rivals. About 3 feet high. Half-hardy perennial.

Culture.—Seeds may be sown very early in spring so plants will blossom in fall or started in late summer so that good healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Saponaria

Multiflora Calibrica

Mixed Colors

Height Six Inches

An admirable dwarf bedding plant, with neat foliage, and small, cross-shaped blossoms, of delicate tints of rose and pink. Adapted for vases and hanging baskets; make a fine display grown in a circular bed; quite hardy, blooming till after severe frosts.

How Grow One Hundred Varieties of Favorite Flowers

Culture.—Sow in-doors, early, or later in open ground; transplant to about one foot apart; they will spread and cover the ground as with a mat, compact and dense dotted with the small flowers.

Scarlet Runner

Will grow to the height of 12 or 15 feet and produce a profusion of scarlet flowers. Needs strings or some support to climb on. Sow in spring when ground is warm where they are to remain. Plant about three inches deep.

Schizanthus

Butterfly Flower

A beautiful species of plants for out of door decoration. Easily cultivated, of bright colors and splendid for bouquets; do well in any garden and may be removed to the house in autumn. Give plenty of room. Half-hardy annual, 2 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. The soil should be well pulverized and enriched with fertilizer.

Sensitive Plant

Mimosa Pudica

An interesting and curious plant with globular heads of pink flowers; well known for the extreme irritability of its leaves, which if touched drop, touching the lower ones and the whole plant will appear as if wilted and dying. Keep six inches apart. Half hardy annual. 1 to 2 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Stock

The stock is one of the most popular garden flowers either for bedding or pot culture. For brilliancy of color, fragrance, profusion and duration of bloom it is unsurpassed. Hardy annual one foot high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Sunflower

Helianthus

Double

An exceedingly double variety of this well-known plant adapted by its stately growth for a background to the lawn appearing to advantage in masses. Thin to 4 feet apart. Hardy annual, 5 feet high.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Sweet Peas

Lathyrus Odoratus

For its beauty and fragrance the sweet pea is the queen. Within recent years it has been brought to a high degree of development and is now one of the most popular garden favorites. Their chief use is for cut flowers, although their value in the garden is not to be ignored. Sow early. About 4 feet high. Hardy annual.

Culture.—Sow in the spring in the open ground where they are to grow; the sooner the seeds can be got in the better. They delight in a moist, loamy soil; should be sown two inches deep. If not allowed to go to seed they will flower much longer.

Sweet Rocket

Hesperis Matronalis

One of the old fashioned garden plants, also known as Dames Rocket and Dames Violet. A most desirable hardy flower; bearing spikes of brilliant, fragrant blossoms. Very excellent among shrubbery or in borders. Grows 2 to 3 feet high. Perennial.

Culture.—Seeds may be sown very early in spring so plants will blossom in fall or started in later summer so that good healthy plants and a profusion of flowers will be had the following year A light mulch of manure is desirable for winter protection.

Sweet William

Dianthus Barbatus

A well known, attractive, free flowering plant producing a splendid effect in bed and borders with rich attractive flowers borne in heads or clusters; about 18 inches high. Hardy perennial.

Culture.—Seeds may be sown very early in spring so plants will blossom in fall or started in late summer so that good healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Thunbergia Alata

Black Eyed Susan

Beautiful, rapid-growing climber, preferring a warm sunny situation; very fine for hanging baskets, vases, low fences, etc. Height 4 feet. Annual.

Culture.—Sow out of doors when danger from frost is over, covering the seed to a depth of about four times its size; when planted in-doors, young plants can be transplanted to the open as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

Verbena

Hybrida

Verbenas are becoming more popular every year, and scarcely need a description. For garden beds or effective massing the Verbena is unequalled. Height, 1 to 1½ feet. Annual. Keep 12 or 18 inches apart.

Culture.—Seed should be sown four months before the plants are wanted, as it is often slow in germinating. Seedling plants are more vigorous than those from cuttings, but if a special color is wanted seedlings are not to be depended upon.

Violets

Viola Odorata

The violet should be in every garden on account of its fragrance and early appearance. They are well adapted for border or rock work and commence putting forth their flowers all through spring. Hardy perennial. 4 inches high.

Culture.—Seeds may be sown very early in spring so plants will blossom in fall or started in late summer so that good healthy plants and a profusion of flowers will be had the following year. A light mulch of manure is desirable for winter protection.

Wall Flower

Cheiranthus Cheiri

An old garden favorite, well known, deliciously fragrant, blooming early in spring with spikes of beautiful flowers, and dark green foliage. 1 to 3 feet. Biennial.

Culture.—The seed should be planted early in spring in open ground, and will blossom before fall. The plants will bloom again the following year but the young plants bloom best and seed should be sown every spring.

Zinnia

Elegans

Youth and Old Age

This plant is one of the most brilliant and showy of annuals. It bears large double flowers from early summer till frost with very little attention. Provide plenty of room; at least 18 inches. Height 2 feet. Annual.

Culture.—Seeds should be planted in the open ground after all danger of frost is over, or if started in-doors, young plants can be set out in the garden beds as soon as warm weather appears. A rich garden soil, deeply dug and liberally enriched with manure is best.

BEAUTIFUL HOMES

How to Give Added Charm by the Use of Trees, Shrubs and Flowers.

The happier the home, the greater is the desire of the family, as a rule, to embellish it by all the means within the reach of the family purse. And there is no embellishment more gratifying to the eye and none that pays better in the long run, than the improvement of the lot or the surrounding grounds by an artistic arrangement of ornamental trees, shrubs and flowering plants.

To have a beautiful home, to sit down under the vine that clings upon its walls, to rest in the shadow of the tree that grows beside it, to eat of the fruits that ripen on its soil—this is the realization of many a pleasant dream, the result of many a worthy ambition. To fail to possess a home in which one can take both comfort and pride is to largely miss life's purpose.

Consider the joy and the privilege of bestowing on childhood the pleasure and the blessing of a charming home!

No attraction can be devised that should more surely hold the child to the fireside than attractive home surroundings. It is one of the greatest joys of youth to welcome the visitor to an attractive city residence. The admiration and praise bestowed upon the home are a constant source of pride and delight to the children of such a household.

Thousands of people in the cities can bear testimony to the fact that they left their country homes because of shabby surroundings which, as they grew up, gradually became to them a constant source of annoyance and shame.

On their visits to the city they had seen delightful parks and the beautiful grounds of city residences; and then to come back to an old, unpainted, dilapidated house, with a shambling barn and a few straggling swine and fowls, amid weeds growing where there might have been beautiful lawns, ornamental trees, and flowers, caused a feeling of depression that made them resolve to quit the wretched old premises as soon as they possibly could.

It is not only the city or the suburban home that can be made a thing of beauty and a joy forever by landscape gardening. Every farmhouse, every country school-house, every building in fact that stands in its own grounds, can be immensely improved in appearance by the aid of trees, shrubbery and plants. In the pages immediately following a number of examples are shown, and there is also a list of ornamental trees adapted to various regions, with cultural directions and suggestions of value to the home builder. An outline map of the United States divided into districts, each plainly numbered, will facilitate the choice of trees suited for planting in each district.

There is no easier way to enhance the value of detached residence property than to give it an ornamental setting of lawns, trees and shrubbery, with flower-beds blooming in season. A home so embellished is like a gem in a fine setting. The gem itself, like the home, is the principal thing, but an appropriate setting enhances its beauty, and in the case of the home an attractive setting enhances its value as real estate.

In every neighborhood one sees residences that stand out prominently among their neighbors by reason of their beautiful and well-kept surroundings. The owner of such a place gives tangible evidence of good citizenship. While his home delights the eye, benefits and gives a tone to the whole neighborhood, he has his reward in the gratification of the artistic sense—the sense of the beautiful, in the greater pleasure and satisfaction of his family, and in a material addition to the value of the property, which he promptly discovers should he desire to sell.

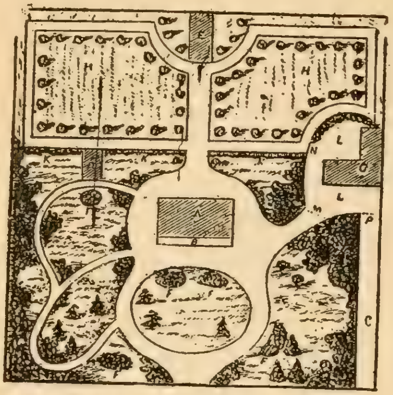
It can be safely said therefore, as the result of experience in every section of the country, that it is not only desirable to embellish home surroundings from the standpoint of family comfort and personal pleasure, but also from the financial standpoint as well. Small expenditures for landscape gardening, ornamental trees and shrubbery, flowering plants and other outdoor ornamentation of the home, will usually pay the owner in increased market value of the property.

In another direction, too, the improvement of residence property by the cultivation of lawns and gardens is of advantage to the owner, if resident on the place, or to the tenant if the property be leased. The care and up-keep of a garden of any size will afford both recreation and exercise, with great benefit to the health of those who otherwise lead a sedentary or indoor life. And if the garden does nothing else but develop a desire for life in the open air, it is well worth while, for that desire is a natural one, prompted by healthy instincts. To the women of a household gardening is usually a great delight, while educators are all agreed that it is most desirable to give growing children individual pieces of ground to cultivate. Therefore, there are many good and sufficient reasons why the surroundings of the home should be embellished by cultivation, by the planting of trees and shrubs, and by the encouragement of the gardening instinct which the great majority of men, women and children possess in a marked degree.

In planning the improvement of the home lot or grounds the information contained in the preceding pages, regarding the cultivation of many varieties of favorite flowers, will be found extremely useful, as well as the pages that follow, on the use of ornamental trees.

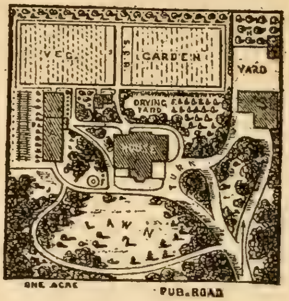
Two Plans, each for Laying Out One Acre.—From "Woodward's Country Homes."

Plan for Two Acres.



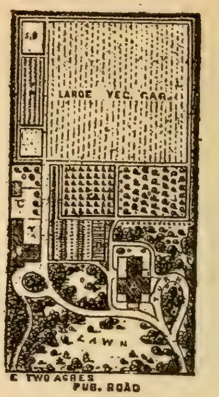
Locations

A. Dwelling. B. Piazza C Passage.
D. Greenhouse E. Grapery (house)
F. Flower Beds. H. Kitchen Garden
K. Trellis of Grapevines. L. Yard.
M. Gate. N. Gate O. Stable, Barn.



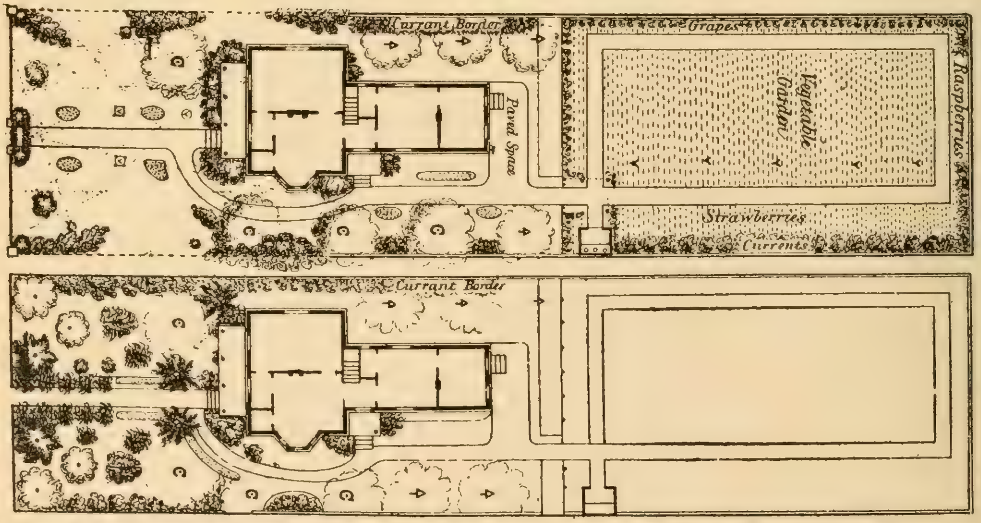
Explanation.

S Stable and Barn
A. Greenhouse and Grapery
O. Double Hennery.
H. Hen Yard, set with fruit trees.
D. Grape Arbor, fruit trees.
I. Dwarf and Standard fruit trees.
F. Fountain
J. Flowers
O. Lavatory and Garden Tool-house in rear.
E. Dwarf fruit trees.



Locations.

A. House. E. Entrance
B. Stables and Carriage House. D. Greenhouse and Grapery I. Hennery, with double yard.



Plans—Two Lots, each 50 x 200 feet in size. Dotted line shows open views across the lawn Lower lot shows too many trees. In a short time the view of roadway in front will be completely cut off

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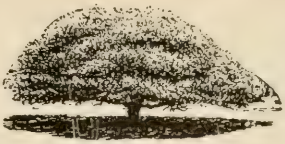
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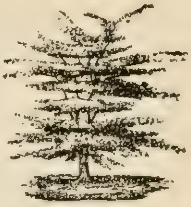
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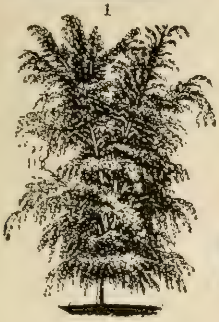
Ornamental Trees.—*For Residence and Public Grounds.*

Fig. 1. Japanese Weeping Sophora.
" 2. Snowdrop Tree.
" 3. Broad Apple Tree.
" 4. Honey Locust.
Fig. 5. Cut-leaved Weeping Birch.
" 6. Adromoda Tree.
" 7. Scarlet Oak.
" 8. Golden Arbor Vitae and Yews.
Fig. 9. Balsam Fir.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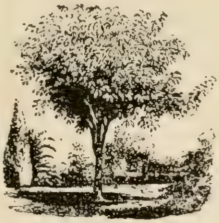
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Trees Adapted to Various Regions, with Cultural Directions

The beauty of a shade tree depends upon its normal and symmetrical growth. In order to insure this, before planting cut off the ends of all broken or mutilated roots; remove all side branches except upon evergreens, so that a straight, whip-like stalk alone remains. Dig holes at least 2 feet in diameter and 1 foot deep in good soil, and make them 4 feet across in poor soil. The sides of holes should be perpendicular and the bottom flat. Break up soil in the bottom of the hole to the depth of the length of a spade blade. Place 2 or 3 inches of fine top soil, free from sods or other decomposing organic matter, in the bottom of the hole. On top of this place the roots of the tree, spread them as evenly as possible over the bottom of the hole, and cover with 2 or 3 inches of fine top soil as before. Tramp firmly with the feet and fill the hole with good earth, leaving the surface loose and a little higher than the surface of the surrounding soil. When the work of planting is completed, the tree should stand about 2 inches deeper than it stood in the nursery.

In order to insure symmetry of growth, trees must be allowed unrestricted area for development. At least 40 feet should be allowed between trees intended to occupy the ground permanently. Quick-growing nurse or temporary trees may be planted between the long-lived ones to produce immediate results, but these should be removed as soon as they interfere with the development of the permanent plantations.

The lists of trees and shrubs contained in this publication are merely suggestive, but in all cases they include such sorts as are well adapted to the particular locality for which they are recommended. Because of the great differences existing in the soil and climatic conditions of the several parts of the United States, the country has been partitioned into five sections, and a list of trees and shrubs suitable for park grounds or for home adornment is enumerated for each section. The section in which any particular park is located can be determined by a glance at the map, and reference to the list of trees and shrubs will assist in selecting suitable decorative material for the grounds.

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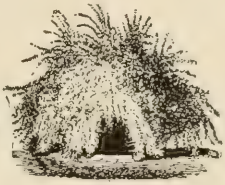
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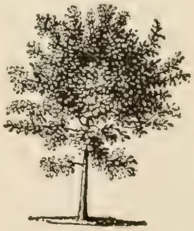
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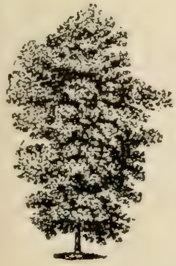
Ornamental Trees.—*For Public Grounds and Homes.*

Fig. 10. Hawthorn Archway.
" 11. Oblate Dwarf Silver Fir.
" 12. Mossy Cupped Turkey Oak.
" 13. Flowering Currant.
" 14. Chinese White Magnolia.
Fig. 15. Whitewood Tulip Tree.
" 16. Crab Apple Tree.
" 17. Swedish Juniper.
" 18. Orange Quince Tree.
" 19. Canoe Birch Tree.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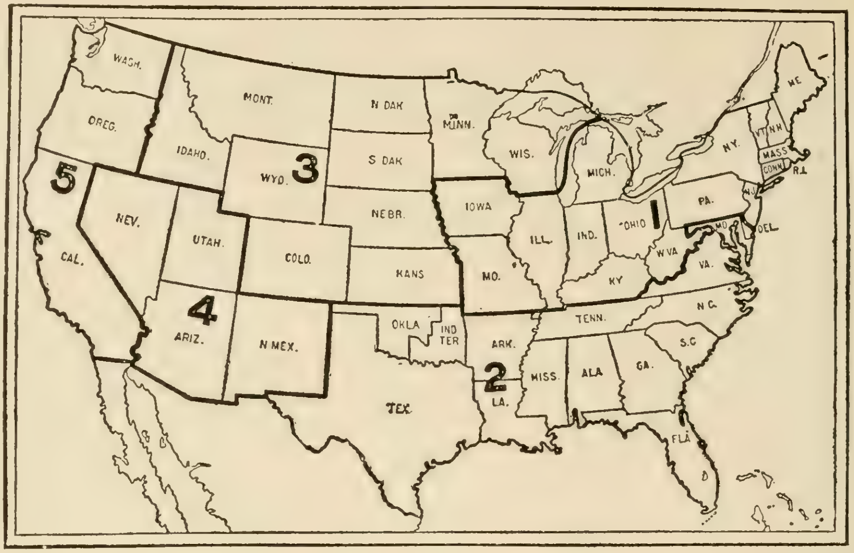

District Adapted to the Following Trees

District 1.

Deciduous trees.—Sugar maple, Norway maple, silver maple, green ash, white ash, American white elm, red oak, white oak, pin oak, American linden.

Evergreen trees. — Norway spruce, white spruce, Colorado blue spruce, white pine, Scotch pine, balsam fir.

Shrubs.—Lilac, golden bell, exochorda, snowball, mock orange, hydrangea, Japan quince, flowering currant, calycanthus, cornus, deutzia, spiræa, weigela.

District 2.

Deciduous trees.—Tulip, sycamore, pin oak, white oak, black oak, live oak, red oak, white ash, bald cypress, Norway maple, silver maple, red elm, American white elm, Kentucky coffee, American linden, catalpa, liquid-ambar, Carolina poplar, hackberry, sour gum.

Evergreen trees.—White pine, long-leaf pine, magnolia, live oak, cedar of Lebanon.

Shrubs.—Golden bell, hydrangea, lilac, loniceras, hibiscus, hardy roses, Japan quince, calycanthus, smoke tree.

South of Charleston, S. C.—Camellia japonica.

Southern Florida and Texas.—Oleander, privet.

District 3.

Deciduous trees.—Burr oak, linden, silver maple, Norway maple, cottonwood, green ash, box elder, wild cherry, larch, American elm, black walnut, hackberry.

Evergreen trees.—Scotch pine, Austrian pine, white pine, Norway spruce, Colorado blue spruce, white spruce, red cedar, arbor vitæ.

Shrubs.—Lilac, barberry, cornus, Japan quince, cratægus or hawthorn, snowdrop.

District 4.

Deciduous trees.—Valley cottonwood, mountain cottonwood, mountain ash, box elder.

Evergreen trees.—Arbor vitæ, box, euonymus.

Shrubs.—Althea, snowball, mock orange, wild rose, crape myrtle, spiræa, flowering currant, elder lilac.

District 5.

Deciduous trees (Coast region). —Large-leaved maple, tulip tree, mountain ash, European linden, sycamore, weeping willow.

Shrubs (Coast region).—Roses, weigela, European holly, lilac, laburnum, deutzia, hydrangea, mock orange, Japan quince.

Trees (Columbia Basin).—Scotch elm, American elm, Norway maple, European linden, sycamore, green ash, silver poplar, Russian poplar, white willow.

Shrubs (Columbia Basin).—Lilac, hardy roses, Philadelphus, laburnum, spiræa, barberry.

20

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Ornamental Trees.—*For Public and Private Grounds.*

Fig. 20. Stake Support for Tree.
" 21. Willow-leafed Thorn.
" 22. Oblate Dwarf Evergreen.
" 23. Old Apple Tree.
" 24. Old White Oak.
Fig. 25. English Elm.
" 26. Oval Flattened Elm.
" 27. Irish Juniper.
" 28. Golden-barked Linden.
" 29. Weeping Elm.

25

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28

29

One Hundred Varieties of Favorite Flowers

Directions
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

One Hundred Varieties of Favorite Flowers

Directions

HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

GERANIUM

GLADIOLUS

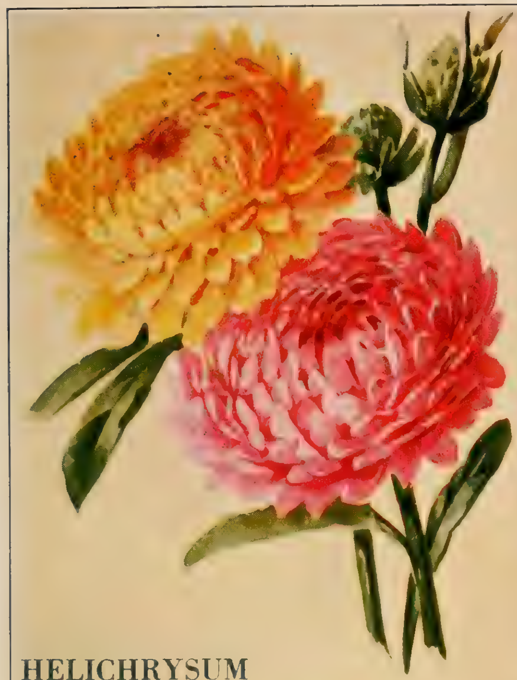
GODETIA

GYPSOPHILA

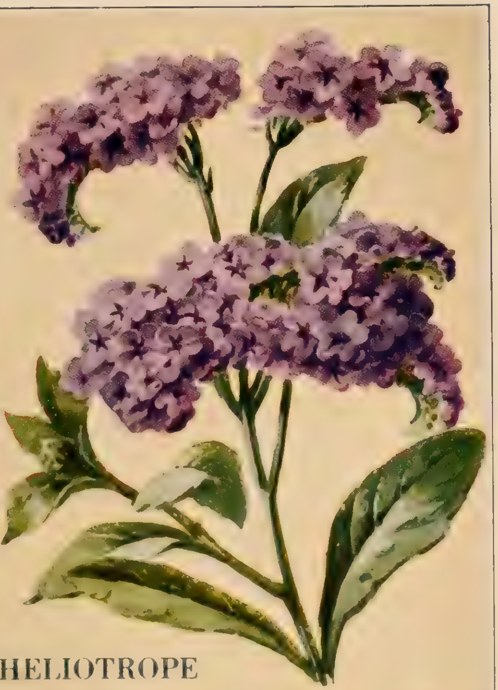
One Hundred Varieties of Favorite Flowers

Directions

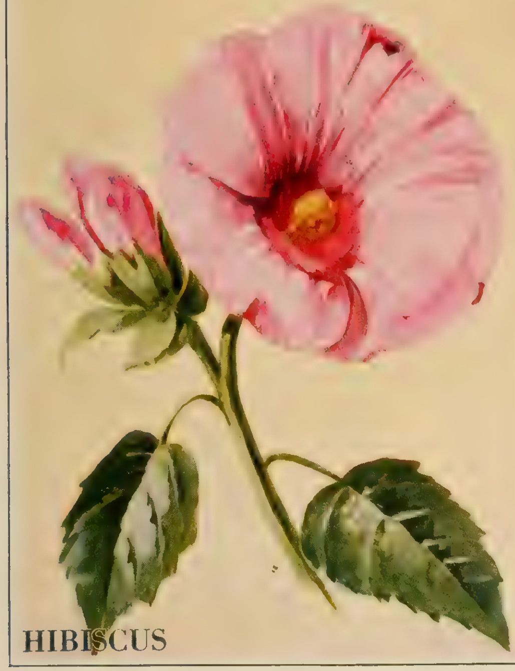
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME



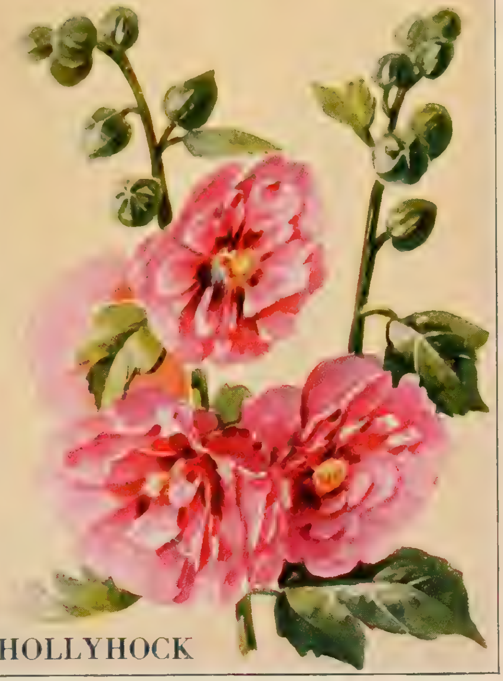
HELICHRYSUM



HELIOTROPE



HIBISCUS



HOLLYHOCK

One Hundred Varieties of Favorite Flowers

Directions

HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

HONEYSUCKLE

HYACINTH BEAN

ICE PLANT

IVY

One Hundred Varieties of Favorite Flowers

Directions

HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

JAPANESE HOP

LANTANA

LARKSPUR

LILIES

One Hundred Varieties of Favorite Flowers

Directions

HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

LILY OF THE VALLEY

LINUM

LOBELIA

LUPIN

One Hundred Varieties of Favorite Flowers

Directions
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

LYCHNIS

MARIGOLD

MAURANDIA

MIGNONETTE

One Hundred Varieties of Favorite Flowers

Directions

HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

MOON FLOWER

MORNING GLORY

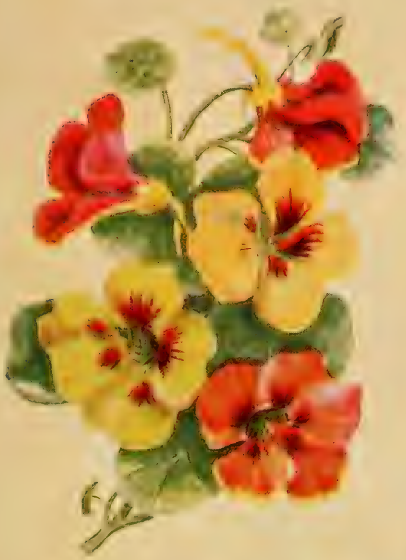
MOURNING BRIDE

MUSK PLANT

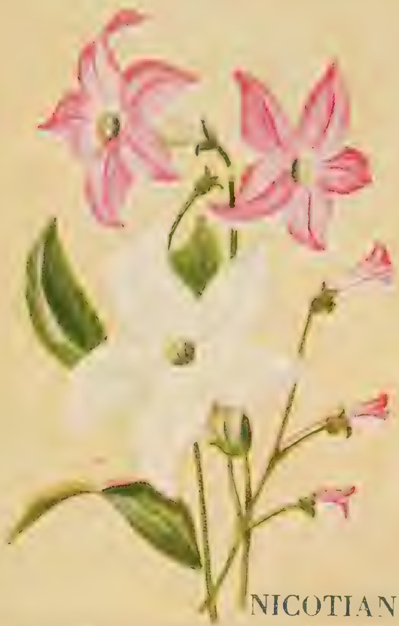
One Hundred Varieties of Favorite Flowers

Directions

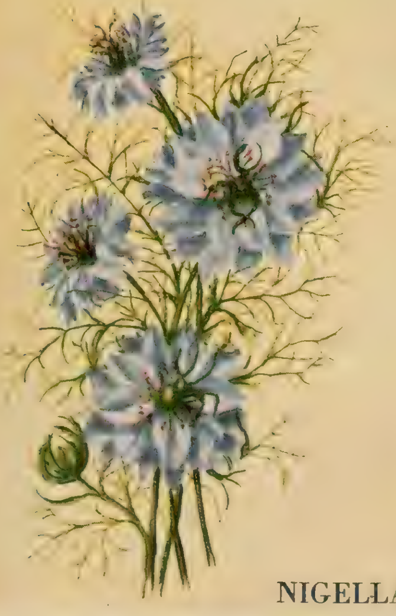
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME



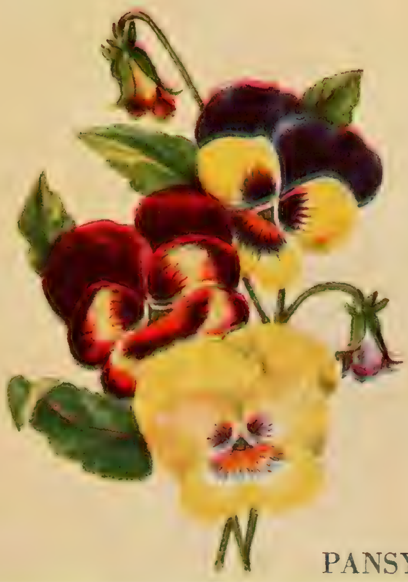
NASTURTIUM



NICOTIANA



NIGELLA



PANSY

One Hundred Varieties of Favorite Flowers

Directions
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

PASSION FLOWER

PEONY

PETUNIA

PHLOX

One Hundred Varieties of Favorite Flowers

Directions
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

PINKS

PRIMULA

POPPY

PORTULACA

One Hundred Varieties of Favorite Flowers

Directions
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

PRIMROSE

PYRETHRUM

RICINUS

ROSE

One Hundred Varieties of Favorite Flowers

Directions
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

SALPIGLOSSIS

SALVIA

SAPONARIA

SCARLET RUNNER

One Hundred Varieties of Favorite Flowers

Directions

HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

SENSITIVE PLANT

SCHIZANTHUS

STOCK

SUNFLOWER

One Hundred Varieties of Favorite Flowers

Directions

HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

SWEET PEAS

SWEET ROCKET

SWEET WILLIAM

THUNBERGIA

One Hundred Varieties of Favorite Flowers

Directions
HOW TO PLANT AND CULTIVATE GIVEN ELSEWHERE IN THIS VOLUME

VERBENA

VIOLETS

WALL FLOWER

ZINNIA

30

31

32

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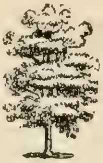
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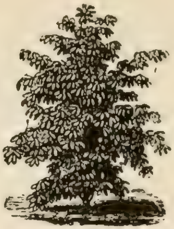
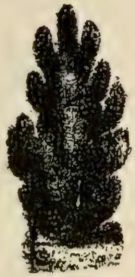

36

Ornamental Trees—*For Parks and Residences.*

Fig 30. Shell Bark Hickory.
" 31. Sassafras Tree.
" 32. Pin Oak Tree.
" 33. Oblate Form Apple Tree.
" 34. Burr Oak.
" 35. Young White Oak.
" 36. Virginia Fringe Tree

Fig. 37. Japan Podocarpus Tree.
" 38. Althea Tree.
" 39. Pear Tree.
" 40. Swiss Pine.
" 41. Swedish Juniper.
" 42. Umbrella Magnolia.
" 43. Beech Tree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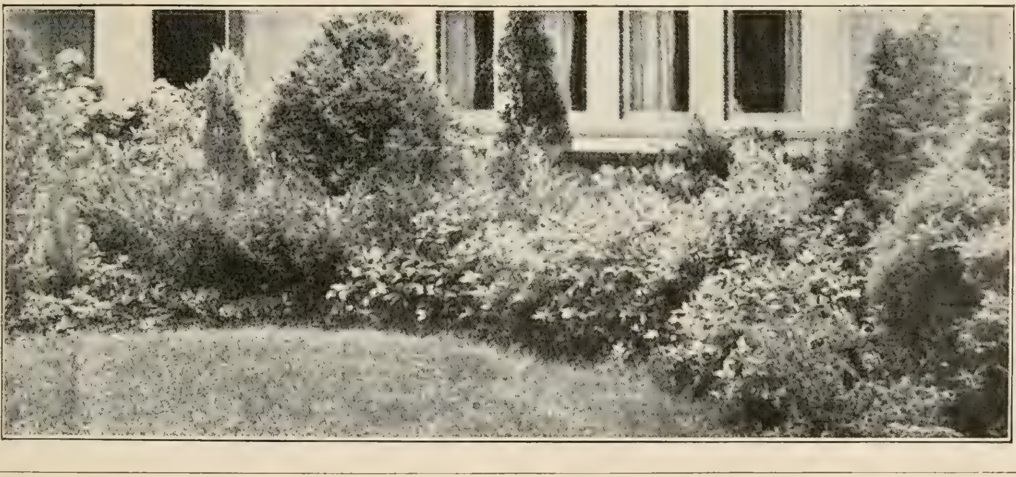
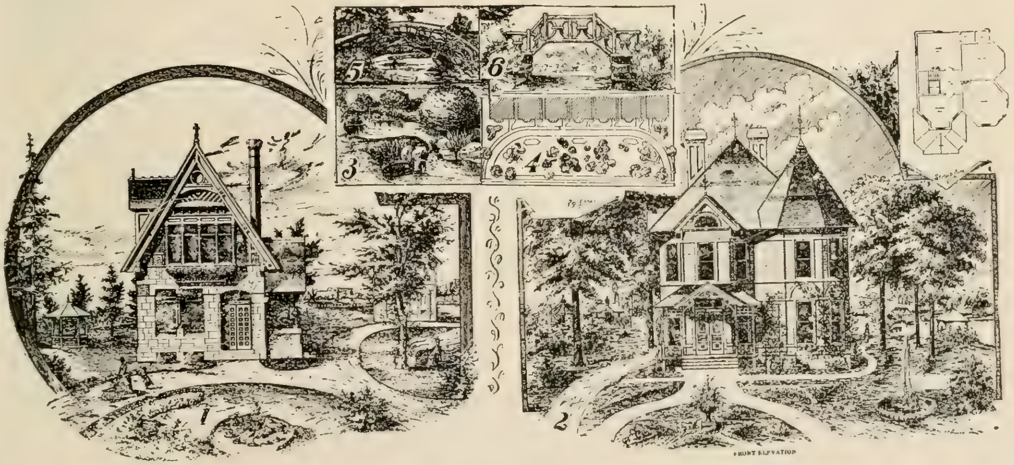
Boston Public Gardens.
The above park shows superior artistic arrangement in lawn, shrubs, flowers and pathways.



Home in Quiet Repose.

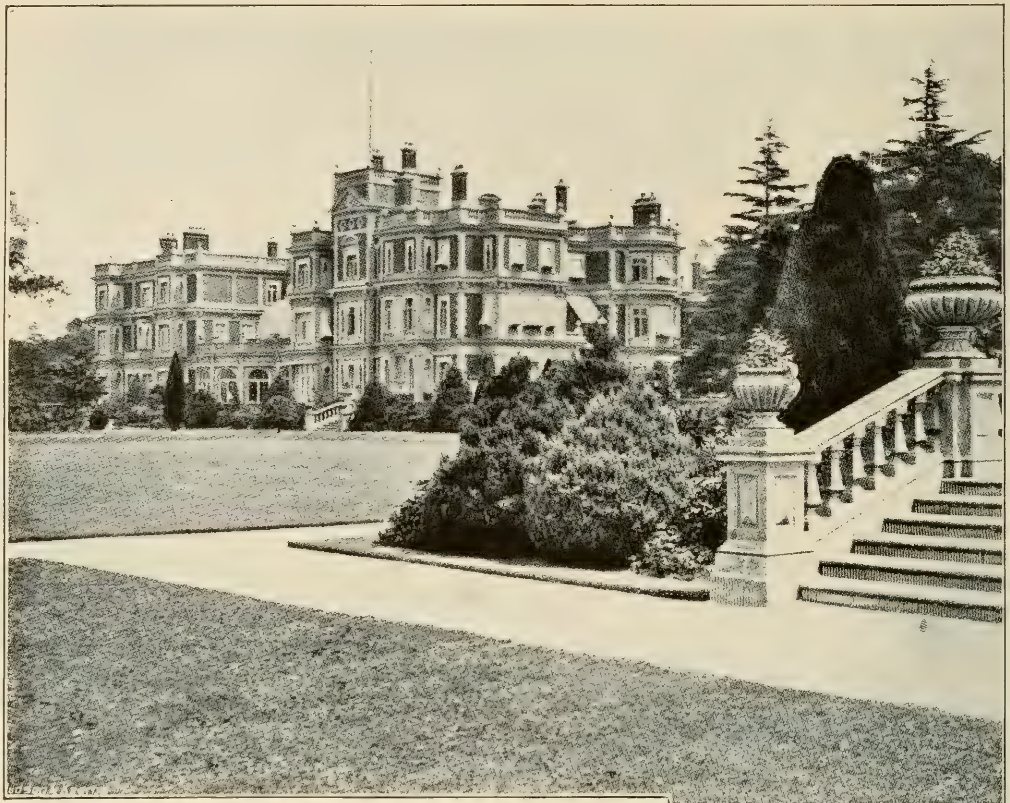
View No. 1 shows plain house and rockery. No. 2, ornamented with vines. No. 3, house in distance and beautiful lawn in front.

No. 3 view taken from "Delineator," New York.



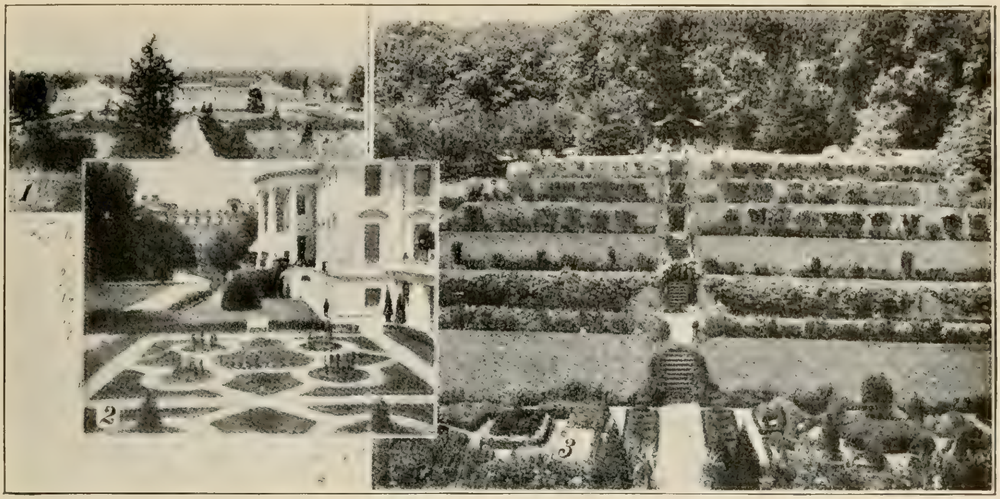
Landscape Views.

View 1. Shows possibilities on one acre. 2. Opportunity on five acres. 3. How a little stream may be made a feature of beauty. 4. How a neighborhood may have a park; neighbors each contributing conjointly to keep it up. 5, 6. Designs for rustic bridges.



FRENCH CANNAS FOR LAWN BEDDING

The illustration to the right gives a good idea of the value and beauty of the dwarf large-flowering French Cannas as lawn bedders. These Cannas are perfectly at home in the American climate, and when grown in rich deep soil and not allowed to suffer for lack of moisture, they are gorgeously effective, particularly so when massed one sort only in one bed. Their luxuriant dwarf growth, immense Gladiolus-like flowers of most brilliant colors, and their profusion and continuity of bloom until frost render them easily the most satisfactory and popular bedding and garden plants grown.

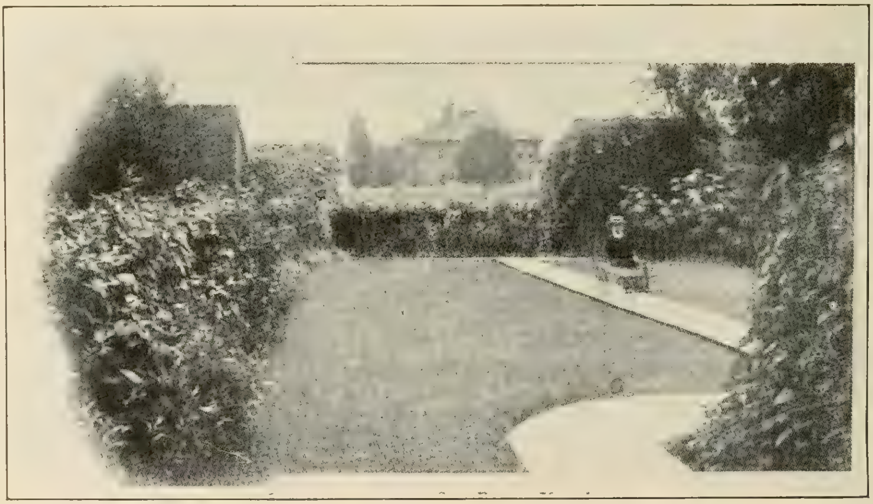


Improvement of Steep Hillside.—The above illustrations represent as follows: No. 1. Plant House, Botanical Gardens, St. Louis. No. 2. Flora Culture, White House Grounds, Washington, D. C. No. 3. Possibilties of terracing and ornamenting a hillside. **No. 3. View taken from "Country Life in America."**

HERALDS of SPRING.

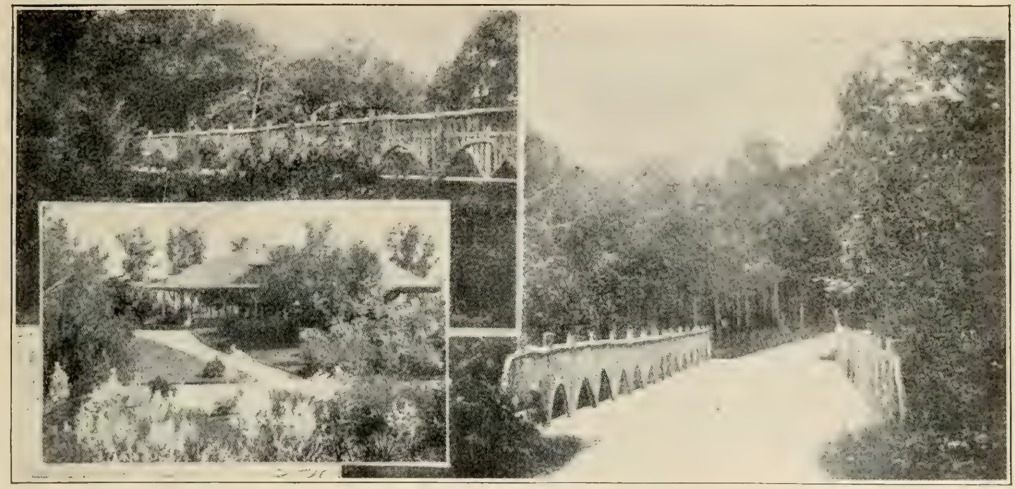
A Rockery.

The left side picture gives a park scene containing a winding path bordering a lake. The right side view shows a pile of rocks intermixed with rich earth, from which come vines, shrubs, ferns and flowers, the whole illustrating possibilities with a collection of stone.



Improvement of a Rear Yard.

The above view, developed through the efforts and taste of the National Cash Register Company, at Dayton, O., shows one of the many beautiful rear yards in that enterprising city.

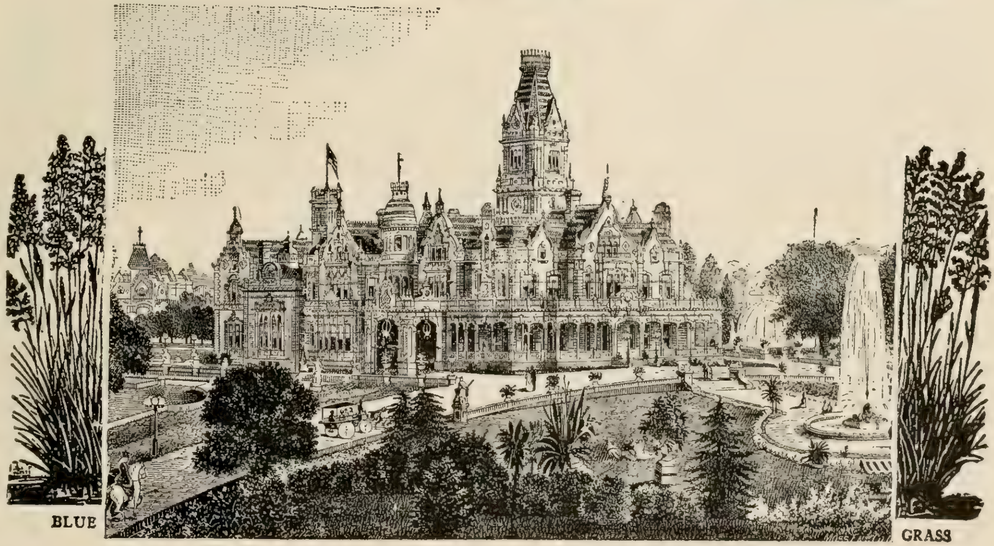


Rustic Bridge.—Two views of bridge, and one showing scene in rear of a railroad depot, roof so extended as to permit passage of carriages underneath, protecting people from down-pour of rain, when alighting from and entering carriages. Suitable arrangement also for park pavilion.

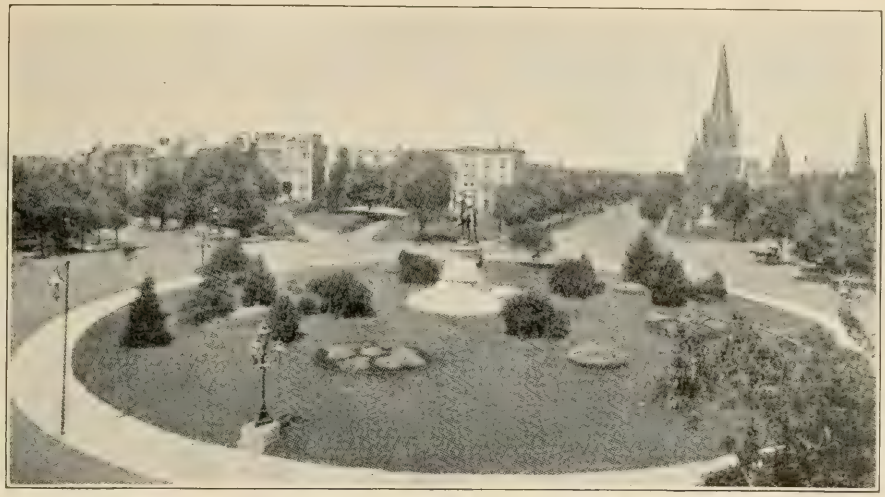
CYCLAMEN

BRYOPHYLLUM.

MAMMOTH BROWALLIA.

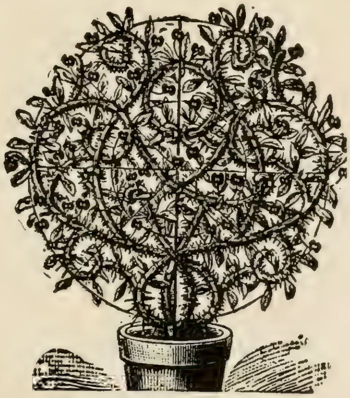


BLUE GRASS



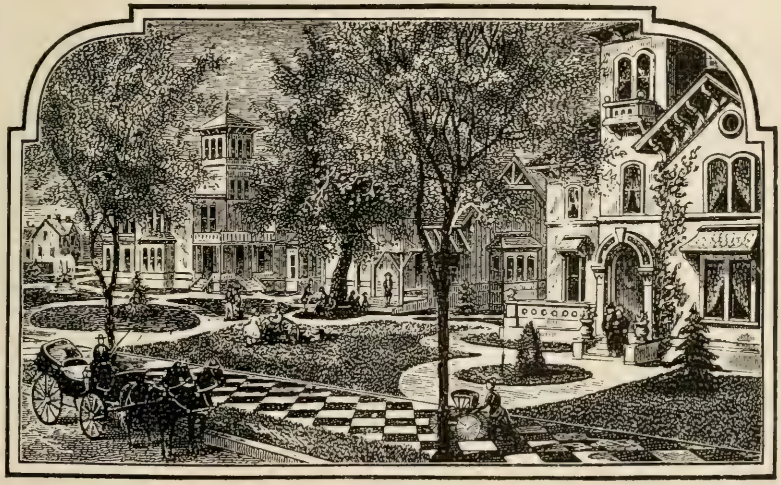
Thomas Circle, Washington, D. C.
Shows how a public square in the center of a city may be improved.

FANCY LEAVED CALADIUMS



CROWN OF THORNS.

CALADIUM ESCULENTUM.

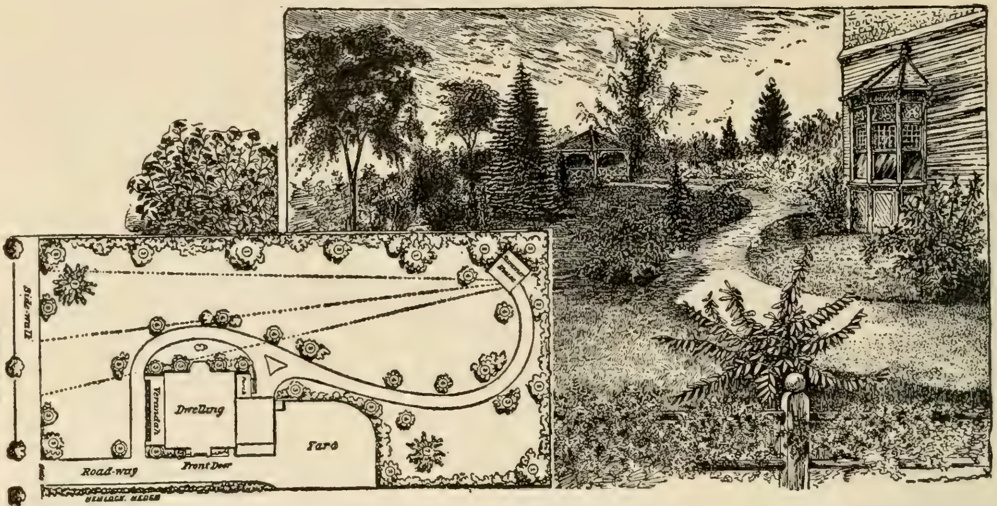


Lawns Kept in Order by Neighbors Conjointly.

Fences Removed.

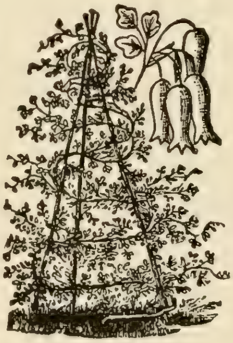
A fence is a disfigurement to any property. It shuts off view, makes the house seem lower and narrows the appearance of the lot. This illustration, taken from "Hill's Manual," represents all division enclosures and front fences removed. This gives every resident of the neighborhood the advantage of living in a beautiful park.

A serious hindrance to improvement is that individual who will persist in keeping up a front fence.



View of Residence and Summer House.—This illustration from "Parson's Landscape Gardening," presents good arrangement for ornamenting the front of small home grounds. The view from the bay window is not obscured, while the dotted lines, in the diagram, show open vistas over all the lawn. The curving pathway adds to the apparent size of grounds.

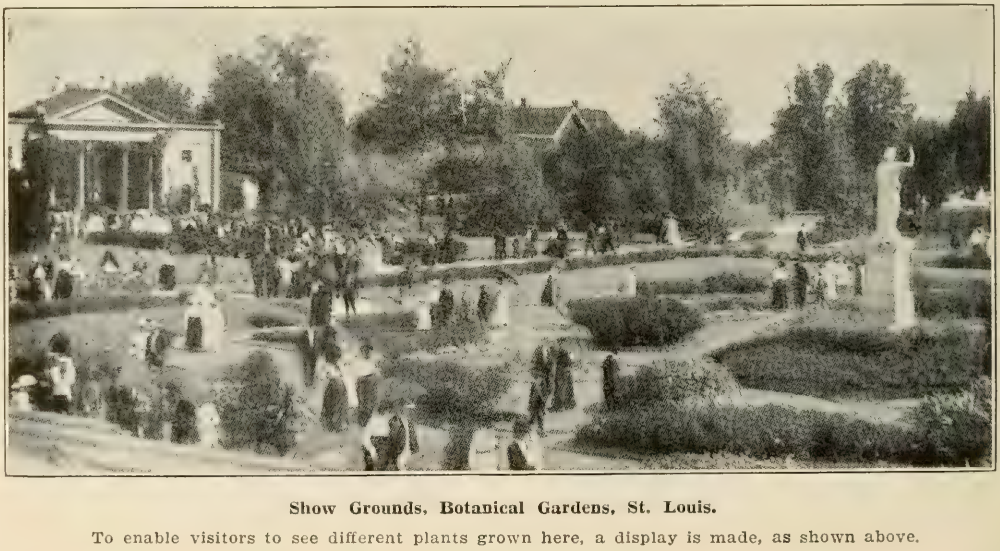
BRYANOPSIS



ADLUMIA

GOURDS

JOHNSON'S AMARYLLIS



Show Grounds, Botanical Gardens, St. Louis.

To enable visitors to see different plants grown here, a display is made, as shown above.

Park View in Washington, D. C.—Among the many beautiful park scenes in Washington is the Mall, shown above in the neighborhood of the Agricultural building.

BLACK PRINCE

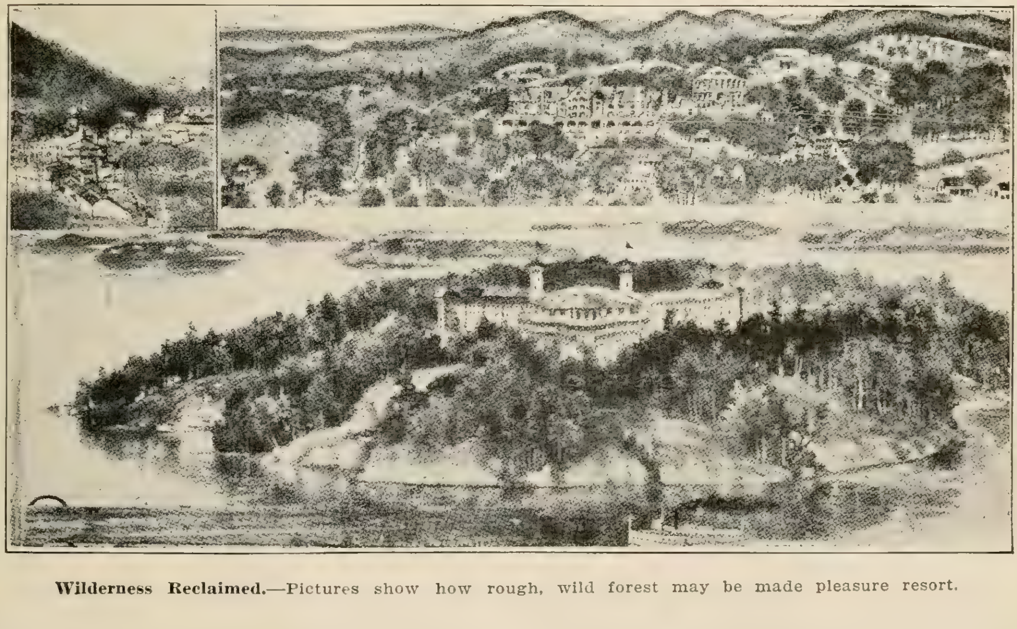
MONARCH

SNOW QUEEN

TRAILING QUEEN

JUPITER

ELM CITY



Wilderness Reclaimed.—Pictures show how rough, wild forest may be made pleasure resort.

DOMESTIC ANIMALS

Breeding and Care of Horses, Cattle, Sheep, Swine, Etc.

The dependence of man upon the lower animals, for service and support, is realized upon the farm as nowhere else. Horses, cattle, sheep and swine are all found on the well-stocked farms, each playing an important part in the general scheme of agriculture and contributing in no small degree to the welfare and success of the farmer.

In the following sections each kind of livestock raised or used upon the farm is taken up and the reader is informed as to the different breeds, methods of breeding, care and uses of the various animals. Thus, the different breeds of horses are described and illustrated and directions are given how to breed, train, feed and produce the best. On the largest farms gas tractors and motor vehicles of various kinds have partially superseded the horse for some purposes, but the noble quadruped is still the farmer's best friend in the great majority of cases.

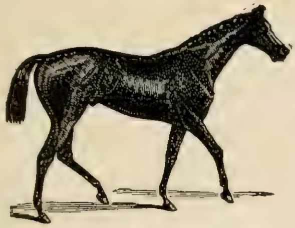
The section devoted to the important subject of cattle-raising describes the different breeds of cattle raised in North America, as well as the European breeds that are freely imported for the improvement of American herds. The characteristics of each of these breeds and the points in which they excel are all clearly shown, as well as the best methods of feeding and care.

Sheep are used in many parts of the county to aid in clearing land for cultivation, after the timber is cut off, while sheep-raising for the wool and for food is an important industry, occupying many thousands of acres in the western states. The methods of breeding and management of sheep. with illustrations and descriptions of the various breeds and much miscellaneous information regarding them, will be found in the following pages.

Hogs are so useful and profitable an adjunct of the farm or market garden that few tillers of the soil fail to establish a hog pen or hog pasture. The information given in the section on swine includes a full description of the breeds that can be most profitably raised, as well as how to raise them.

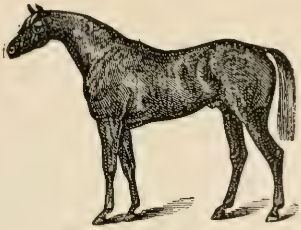
Considerable space is devoted to the raising of poultry because of the general public interest in the subject. As a business it is one of the most generally profitable in the United States and in the aggregate it is one of the most important. It requires but little capital and little land to start in this business, but the novice should equip himself in advance with the practical information to be found in the pages that follow, which deal with the raising of chickens, ducks, geese, turkeys and squabs. There is also plenty of good advice for those who contemplate going back to the land with the idea of making a livelihood and winning independence with the willing assistance of the American hen.

HORSES; DIFFERENT BREEDS IN THE UNITED STATES:



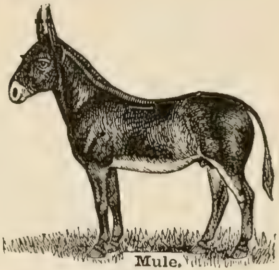
American Running-Horse.

The American Running Horse, a fine descendant of the English Thoroughbred, dates back nearly 200 years.



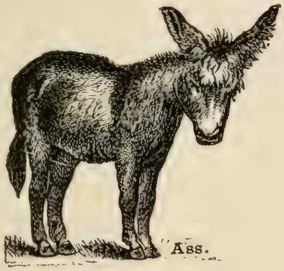
English Thoroughbred.

The English Thoroughbred is undoubtedly of Arabian origin, but has been improved by crossing with other breeds.



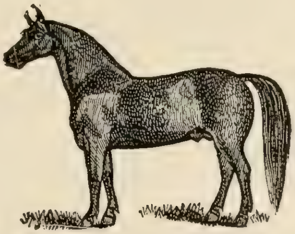
Mule.

The Mule is a hybrid offspring of the ass and horse, and combines good traits of both.



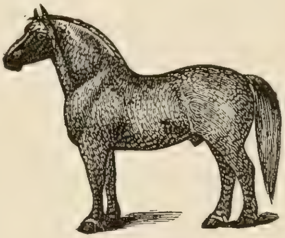
Ass.

The Ass comes from the East and dates back to a very early period in the world's history.



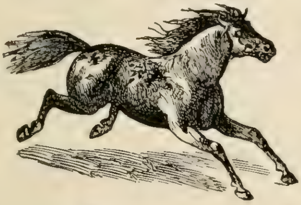
Cleveland Bay Horse.

The Cleveland Bay is a mixture of English draft horse and varied stocks imported from Europe.



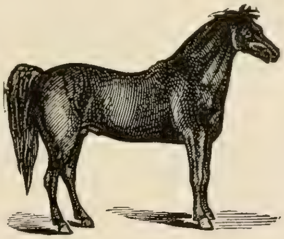
Percheron Horse.

The Percheron, a valuable draft horse, originated in La Perche, a former section of France, near Normandy.



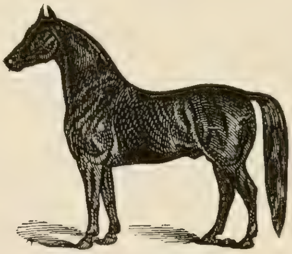
Mustang Pony.

The Mustang is a native of the Southwestern Wilds of North America.



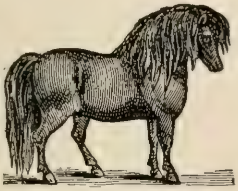
Morgan Horse.

The Morgan, it is claimed, comes from a horse formerly owned by Justin Morgan, of Randolph, Vt.



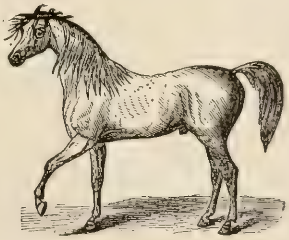
Hambletonian Horse.

The Hamiltonian, originated in Orange Co., N.Y. Stallion, owned by Mr. Rysdyk, lived 27 years; had 1,324 colts.



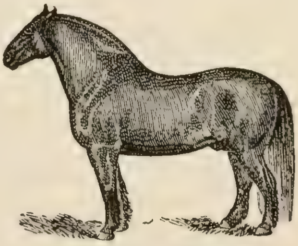
Shetland Pony.

The Shetland grows in a wild state on the Shetland Islands, where it is caught and exported.



Arabian Horse.

The Arabian is known to have existed before the Christian era. Origin uncertain. Some claim Egypt, others Arabia.



Clydesdale Horse.

The Clydesdale, celebrated as a draft horse, originated in the valley of the River Clyde, Scotland.

DIFFERENT BREEDS

HORSES

DESCRIPTION OF VARIOUS KINDS

How to Breed, Train, Feed and Produce the Best

The nativity of the horse has been ascribed to Central Africa, whence he was introduced into Egypt and thence through Persia into Greece, Western Europe and to Great Britain.

Origin of the Mustang

In 1535 a few horses were imported into South America and from these have come the immense herds that have spread over the southern part of our continent.

Thence they came north, passed the Isthmus of Panama into Mexico and scattered northward into California and along the Pacific Coast, their scanty food and wild life resulting in a distinct breed known as Mustang, weighing from 450 to 500 pounds. They reach maturity at the age of three years and are quite extensively used in Mexico and Texas.

The American Running Horse

The American Running Horse is a descendant from the English thoroughbred. The existence of this species of turf heroes dates back over 200 years, and when crossed with any other good breed improves it for speed and road service.

The Mule

The mule is the hybrid offspring of the ass and horse and combines many of the better traits of both. **The union** of the male ass and the mare produces the **most serviceable** and valuable mule, which often is superior in intelligence to both of his progenitors. His weight is about 1,000 pounds; his height, 15 hands; his **constitution, hardy** in the extreme; his disposition, docile; his head is large, as are his ears. His coarse hair is mostly dark. His average value is from $15 to $250.

The Ass

The Ass dates back to a very early period in the world's history, and is among the first of the domestic animals mentioned in the Scriptures.

In the East, where he originated, he is used under the saddle or for carrying burdens. His **average weight** is from 500 to 600 pounds.

With a large and clumsy head, he combines **enormous ears,** small eyes, a long back, short legs, hard, serviceable hoofs, and coarse hair.

The "burro," common in Texas, Central America, and at pleasure resorts for children's use, is a smaller animal of the same species, with similar characteristics and usefulness.

The Cleveland Bay Horse

The Cleveland Bay, lighter in weight than the heavy draft horse, has plenty of carriage and action for the road, making a fine, stylish carriage horse.

The Cleveland Bay is a mixture of English draft horse and various breeds imported from Europe.

The Percheron Horse

The Percheron is one of the most useful animals for heavy hauling and general work.

The Percheron-Norman has an average weight of about 1,650 pounds, is 16½ hands high, has a hardy constitution, small head and ears, heavy quarters, large bones, medium neck and shoulders, wide chest, a short back, medium legs, fine hair, broad hoofs, grayish color, fine action, and a kind disposition.

The Morgan Horse

The celebrated "Morgan Horse," foaled in 1793, was probably a grandson of imported Wildair, out of a Canada mare. His progeny are stout and enduring, with good action, great hardiness of constitution and some of them distinguished as fast trotters.

"Columbus," "Grand Bashaw," "Andrew Jackson" and the Morse horses have all founded families of trotters.

Hambletonian Horse

The Hambletonian is the name of a breed of horses originating in Orange county, New York, in 1849. From the Hambletonian stallion came several distinguished horses. Among them were Dexter, Bruno, Goldsmith Maid, Belmont and others widely known at that time as standing high in the first rank of fast trotters..

The average Hambletonian weighs about 1,100 pounds, stands 15½ hands high; matures at 5 years; has a hardy constitution; has fine hair of a bay color, and is one of the highest-priced horses in the market.

The Shetland Pony

Shetland Ponies are bred, captured wild and exported from a region covering 450 square miles, comprising about 100 islands lying north of Scotland, known as the Shetland Islands. All horses there are diminutive in size; even people are small in stature, active and hardy.

The Arabian Horse

The Arabian is known to have existed sometime before the Christian era. His origin is uncertain, some attributing it to Egypt, others to Arabia.

His form is compact and muscular, with graceful outlines. His coat is smooth, his size is medium, his height averaging about 14½ hands, his motions are agile, his speed, per mile, ranging from three to four minutes. He is considered better for riding or driving than for heavy work. In India his value formerly ranged from $750 to $1,000.

The Clydesdale Horse

The Clydesdale, or Scotch, are a larger and showier horse than the heavy French breeds; have strong constitution, are docile, easily kept, and liable to take on fat. All colors, generally have white feet.

HOW GET THE BEST HORSES

HOW BREED AND TRAIN THEM

THE FUTURE OF THE HORSE

It is difficult to determine what the future of the horse is to be. Contrary to expectations, the price of horses has continued to advance, notwithstanding the automobile has come in great numbers. Today horses command higher prices than for twenty years.

The principal effect of the auto, thus far, on the horse, has been to relieve the animal of long and heavy traffic.

In the meantime, the horse is here to be taken care of and utilized for his commercial value.

How Get the Best Horses

If the horse is to be kept as a matter of profit it should be developed physically and intellectually as much as possible. This includes breeding, feeding, and training of the animal.

How to Breed

Like begets like in breeding horses. The stallion kept for service should possess the qualities which it is desired should be transmitted to his progeny.

Both dam and sire should have all the good qualities desired in the colt.

Particularly should it be understood that the colt will inherit the **breed** and no stallion should be kept for breeding purposes unless he can show a long line of desirable ancestry. The accidentally superior mongrels do not reproduce their superior qualities, but transmit back to an inferior ancestry.

But aside from pedigree, various conditions may affect disposition, health, endurance, style, and ambition of the immediate parents.

The stallion should not have his temper spoiled by dark stable loneliness, from being shut in a close box stall away from sight of other horses. He should not be exhausted by overwork, nor be subjected to annoyance whereby he cultivates ill temper. On the contrary, he should have some regular exercise in riding or double harness driving and should be so situated that he can see and have the company of other horses.

Particular attention should be kindly given to the mare as she nears foaling time. She should not have to endure overwork at that period nor should she hear any harsh words, and her large, roomy box-stall should be thickly laid with soft straw.

Weaning and Training

At the age of four or five months the colt should be gently handled. At the age of five or seven months, having been petted, caressed, and taught to eat and drink; it has also been taught to be led by the halter or foretop.

At this period the colt may be weaned and educated to the having of its feet handled; may learn to be harnessed; may be hitched to some light vehicle and taught to draw light loads.

Importance of Being Gentle

In all the treatment of breaking and training the colt no loud or harsh words should be used. Only gentle voice and patience are necessary.

If the colt shies at anything, allow him to come to it, smell and examine it until satisfied that it will do him no harm; thus, in a short time, the colt may be broken to driving and trained to the saddle.

To Break the Wild Horse

To bring a wild or vicious horse that has never had any training under subjection, it is only necessary to use a straight bit, two leg-straps, and a surcingle. The left leg is buckled up with strap No. 1 and the noose of No. 2 slipped around the off fetlock and the other end passed through the surcingle under the belly.

The horse, indignant at being so hampered, hops for a time on three legs around his stall, which should be thickly laid with tanbark or straw. When he finally stops, a draw on strap No. 2 brings him down upon his knees. Nothing else is attempted until the horse has completely exhausted his energies. Soon a profuse perspiration breaks out all over the animal; he drops upon his side, and, after becoming quiet, the operator gently strokes the tired animal's head, and when all the muscles are relaxed, removes the strap, and the horse is so mastered and broken as to be ridden or driven as the operator desires from that time forward.

Training, Feeding and Care

The weanling should not be turned back to the pasture. It should have from two to four quarts of bruised oats and all the hay it can eat. The yearling may have more.

It is not wise to feed the colt so much as to cause it to be very fat. Much injury may result from feeding too much. It is better to feed lightly and often. Many diseases result from bad food or good food badly administered.

Regularity in feeding and watering is very essential. Added to that should be variety. Corn, oats, and hay may be alternated.

Never feed new hay, corn, or oats where old can be obtained. All hay should be cut and it is best to mix with ground corn and oats and moisten with hot water. The moisture prevents the dust from entering the lungs. A horse heavily worked when stuffed full of loose, dry hay is liable to have the heaves. When hard at work increase the ground grain feed but not the hay.

A Good Feed

An excellent feed is made by mixing coarse meal, ground and bruised oats, and bran in the proportion of one-half bushel of the latter to a bushel each of the meal and oats, adding a handful of salt and mixing with water—hot is best—when fed.

A warm mash is a great invigorator to a horse tired out with a long, hard day's work. A handful of salt and clean wood ashes mixed makes a good appetizer and preventative of disease. Carrots, turnips, or mangelwurzel beets, cooked or chopped fine, make a good, occasional addition to the diet and tend to correct costiveness.

Temperate Use of Water

Water moderately three times a day. In hot weather, oftener, using a clean pail, as horses often are very particular about the apparent cleanliness of an article they drink from.

Importance of Stable Cleanliness

Next to proper feeding in the barn is cleanliness. The horse should be removed from his stall on the arrival of the groom in the morning, taken into the open, fresh air, and there have his skin thoroughly scratched with a curry comb. Following next in order, a small brush broom should sweep out the dust loosened by the comb. This will be succeeded by a card with wire teeth or comb with wooden teeth, which will comb and carefully separate all hairs in mane and tail. The finishing touch will now be put on by a large, woolen cloth, which rubbed all over the animal will make hair shine and give it a varnished appearance.

Cleanliness in the Stable

Before returning the horse to the stable its stall should be thoroughly cleaned, made dry and no odor left.

To compel a horse to stand in a stable in a bed of manure, breathing the pungent odor arising from lack of cleanliness, is a cruelty which will result in injury to the animal.

The General Care and Cost of Keeping Horses

A Space for Rolling

A large, roomy space, with sanded dirt floor, should be assigned to the horse in which to roll. This may be in the barn or in a nearby yard outside. Improvement in health results from the horse rolling. Examine the horse's feet to see that no mud or gravel is allowed to accumulate there. Wash feet and legs occasionally and wipe dry. The horse should never be compelled to stand in a wet stall or in a mud-puddle by the roadside.

Do Not Blanket in Stable

Except in exceedingly cold weather, in which there is a good deal of wind in the stable, the horse should not be blanketed in the barn, but care should be used in protecting the animal from severe wind or storms on the outside of the stable.

It is particularly bad to drive the horse into a perspiration, then hitch and leave the animal to endure a cold wind without thick blanket protection at such time.

It is well to be provided with waterproof covering in case of storms. Blankets should be well supplied with buckles and straps to shut out wind, wet and snow.

The Stable Floor

The stable floor, preferably made of plank, should be well covered with tanbark, sawdust, shavings, or fine straw. Colts should have abundance of straw to lie on, should be also curried and cleaned, becoming thus accustomed to being handled.

Cost of Keeping Horses and Automobiles

As horses are yet before us to be fed and cared for, and as the mechanical horse is crowding into the barn and onto the premises, it is a live question as to the expense of maintaining the horse in comparison with the automobile.

Cost of Keeping the Horse

The average active period of horse usefulness is from five up to twenty years, depending upon the care which is given to the animal. Much can be said about the horse which needs to be said to those who are going into the business of rearing horses.

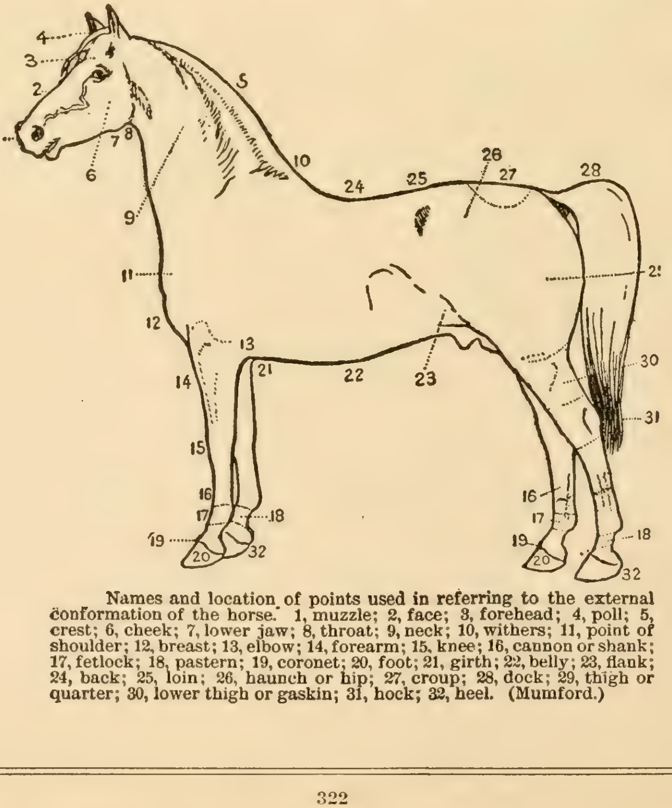
Information at the Livery Stable

For facts concerning the expense of keeping the horse, the reader will go to the livery stable, where they know the exact ration which the horse should be fed. There, also, will be learned about age, employment, and weight of the animal, the amount and kind of food required, how often administered, cost of shoeing, medical attendance, earning capacity, etc.

Necessary Veterinary Knowledge

Investigation concerning keeping the horse will lead to the conclusion that the horseman should obtain a complete volume on veterinary management to do justice to the subject of caring for domestic animals. We close this chapter on the horse with brief attention to cruelties liable to be practiced on the horse.

THE VARIOUS POINTS OF THE HORSE



Names and location of points used in referring to the external conformation of the horse. 1, muzzle; 2, face; 3, forehead; 4, poll; 5, crest; 6, cheek; 7, lower jaw; 8, throat; 9, neck; 10, withers; 11, point of shoulder; 12, breast; 13, elbow; 14, forearm; 15, knee; 16, cannon or shank; 17, fetlock; 18, pastern; 19, coronet; 20, foot; 21, girth; 22, belly; 23, flank; 24, back; 25, loin; 26, haunch or hip; 27, croup; 28, dock; 29, thigh or quarter; 30, lower thigh or gaskin; 31, hock; 32, heel. (Mumford.)

CRUEL TREATMENT OF HORSES

Kindness Pays a Dividend in Increased Service and Value.

It is a strange fact that many people think that the ownership of a horse or cow or other animal carries with it the right to abuse one's property. Only a few years ago a man felt he had the right to beat his horse—to death if he wished—with the same liberty as he mowed or left uncut his own weeds. But the spirit of co-operation has prompted farmers to demand laws compelling everyone to keep down noxious weeds; it is realized that this is not a matter for private preference or personal convenience, but a question of general welfare. But since one farmer does not suffer when another overworks his own horse or starves it or clubs it, and one liveryman does not lose when his rival allows patrons to abuse his teams, so for a long time the public interest in the welfare of private livestock was not considered.

Then came the S. P. C. A., the *Society for the Prevention of Cruelty to Animals,* and it was not long before laws and ordinances were drafted to prevent mistreatment. As a result, we see little of the beating and starving of defenseless horses that was common even fifteen or twenty years ago. But the change has not been entirely due to the activities of the Society. Horses are daily increasing in value, and the owners of livestock realize that it does not pay to take any chance of injuring valuable property. A man doesn't take a sledge hammer to a twenty-one jewel, solid gold watch just because it won't run. People have been learning how to take care of animals. Aside from the fact that they often make the best of friends, they represent the investment of so much capital, an investment which ought to pay as large a dividend as possible. Ill treatment reduces the dividend. The most practical kind of experience tells that kindness will get more work from a horse than will the use of the whip. And any child knows that a horse gets his strength from the food he eats, and a starved horse cannot give effective service any more than can a stove without fuel. It's like trying to run a gasoline engine on water—it can't be done.

When a man underfeeds his stock we call him selfish, stingy. He isn't. He's merely showing poor business judgment and is cheating himself. The horse shows a profit on the food he eats. The less food he gets, the less work he is able to do, and the less profit he pays.

Farmers are being educated every day in the business of agriculture, and they are learning to take care of their stock; so there is much less abuse of dumb animals. Bad temper rather than bad judgment is coming to be the only cause of cruelty.

The owner of a horse realizes that the animal repays in increased value and increased work all the time and care and money that is invested in him. In the summer he must be protected from flies, from overwork or over-driving in the extreme heat; in the winter he must be blanketed against inclement weather, not for any sentimental reason, but because a horse is "animated money."

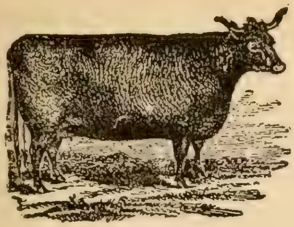
The only abuses practiced to-day by intelligent owners are inspired by "style." Over-checking is the commonest form. To some tastes a driving horse may present a fine appearance if the head be pulled high and back, and the consequent restless tossing of the head may give a spirited appearance, but the custom is a silly one after all. Over-checking pulls the horse's head into a strained, unnatural position which is far from beautiful. There is nothing more attractive than the dignified arch of a spirited horse's neck, nor the proud way in which he carries his head. The man who over-checks his carriage horse thinks he is helping it to keep to this graceful position—which is just what he is not. A single glance in comparison ought to be enough to convince anyone.

Moreover, pulling the head back in this unnatural way takes away much of the steed's pulling power; try it on yourself and see how it works.

If a horse does not naturally hold his head high it is because he is underfed, overworked, or in bad health. The assistance of the veterinary is needed and not that of the check rein.

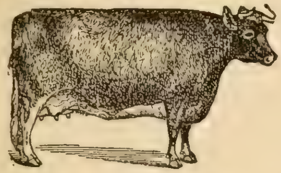
Docking the horse's tail needs little comment. The operation required for a real dock is painful, and, in any case, the shortening of this natural protection against flies is an unnecessary sacrifice to a mistaken idea of good looks. The fly-net does away with the annoyance to the horse, but it does not remove the lack of symmetry. Certainly a long silky tail is much more graceful than a stub, no matter how "natty" it may look.

Many drivers are too careless of the horse's welfare to see the needless cruelty of the tight nosebag. There is no economy in this, even if the extra large nosebag spills a few oat grains. Less food, eaten in comfort, will do more good than a generous feed which causes the horse to gasp and choke.



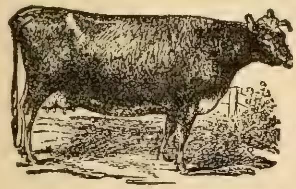
Devon Cow.

The Devon comes from Devonshire, England. Its value rests less upon quantity of milk it yields than upon its superior quality.



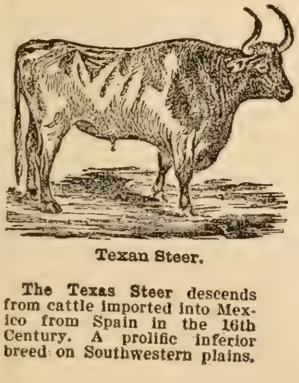
Model Horned Cow.

The Model Horned Cow stands high among dairymen as a good breeder and as a continuous and large milk producer.



Jersey Cow.

The Jersey, coming from Jersey, England, a small-sized animal, stands pre-eminent for richness of milk and the butter which it produces.



Texan Steer.

The Texas Steer descends from cattle imported into Mexico from Spain in the 16th Century. A prolific inferior breed on Southwestern plains.

CATTLE

DIFFERENT BREEDS

BEST FOR MILK AND BUTTER

Records of the Best Milk and Butter Production

Cattle and their uses are mentioned in the oldest books of the Bible. It is probable that the domestic ox is a native of Europe, Asia and possibly of Africa.

There are many breeds of cattle in England and in the United States. Each has its admirers. We mention here twelve of the well known and popular breeds.

Devon Cattle

The Devon is one of the original breeds of English cattle. They are red in color, symmetrical in form, and distinguished for beauty. They are superior milkers, have a fine flesh, make excellent oxen, and are recommended to farmers as an all around breed highly valued for milk, beef, and for work, as oxen, on the farm.

The Model Horned Cattle

The Model Horned Milk Cow is not supposed to belong to any special breed, but illustrates in her make-up and appearance, a mixture of good blood and excellent traits. One, described as half Short-horn and half Devon, gave milk twelve years in succession and bred many calves.

Jersey Cattle

The Jersey Cow. This prime animal, for dairy purposes, was first reared in Normandy, in France, but was carried to the islands of Alderney and Guernsey, in the British Channel, and there reached its present position, as a distinct and valuable breed. Its popularity may be judged by the fact that more than 4,000 head are annually exported from the islands to this and other countries.

In appearance and in those traits which make up a genuine and attractive dairy cow, the Jersey is rather below the medium size, yet pleasing and satisfactory. No excellence is claimed for it beyond the richness of its milk, and the butter which it produces; but in these it stands preeminent, and as a household pet is not surpassed for gentleness.

Texan Cattle

The Texan Steer is a descendant of cattle imported into Mexico from Spain in the 16th century. It is prolific and numerous, and is kept in enormous herds on the plains where it is caught and shipped.

As a whole it is an inferior breed of cattle, raw boned and shambling in appearance, with long and slender horn curving backward over the head which is of medium size.

Holstein Cattle

The Holsteins. This breed, introduced into this country from Holland, has been a favorite in the dairies of that country for hundreds of years.

They are large in size, black and white in color, and are great milkers in quantity and quality.

Originally this breed was white in color. About the year 200 B. C., a tribe of people, called the Batavians, brought into Germany a breed of black cattle and settled along the Rhine. The combination of these two breeds produced the black and white breed of Europe.

These cattle were imported into this country, about the year 1625, by the early Dutch settlers. The first cow, supposed to be a pure blood of this breed, was imported into the United States in 1852. This breed is noted for marvelous milk production, powerful digestion and perfect assimilation of food.

There are numerous records of cows of this breed producing 20,000 pounds of milk a year; and instances have been recorded where a cow of this breed has produced, in one year, as much as 30,000 pounds of milk. They are large in size and, next to the Jerseys, the Holsteins are greatest in numbers in the United States.

Ayrshire Cattle

The Ayrshire, though coming from Scotland, its origin is not certainly known. It is a superior animal of strong constitution, highly prized for the excellence and amount of its milk. It excels, also, as a yielder of good butter.

Wedge-Shaped Dairy Breeds and Rectangular Beef Cattle

Holstein Cow.

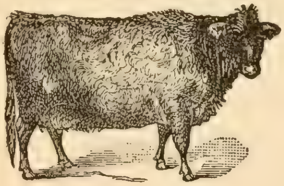
The Holstein, a native of Holland, is highly esteemed for dairy uses and for market purposes. Large in frame but compact in structure.

Ayrshire Cow.

The Ayrshire, a native of Scotland, is highly prized for amount of milk and as a yielder of good butter.

Holderness Cow.

The Holderness comes from Yorkshire, England. Belongs to the Short-Horn family and is classed among the best of dairy cows.



Model Polled Cow.

The Model Polled, a hornless cow, descends from Norfolk and Suffolk counties, England. Does not fat easily but excels in rich milk.

Holderness Cattle

The Holderness Cow, which is classed among the best of dairy cows, came to us from Yorkshire, England, where it has existed for a long period. It was imported into this country about 1818 or sooner.

It belongs to the Short-horn family, is of medium size, color varying from deep red, with white line, back and belly, to a chocolate and black body and black legs.

The breeding-in-and-in system, resorted to in the propagation of this animal, has resulted in an excellent and vigorous progeny.

Model Polled Cattle

The Model Polled Cow has been a favorite among citizens of New Jersey, in the vicinity of Philadelphia, on Long Island, N. Y., and in other parts of the United States.

Guernsey Cattle

The Guernseys, like the Jerseys, are a channel island breed, having originated on an island in the English Channel.

Both the Jerseys and Guernseys have been developed as dairy cattle. The Guernsey is larger than the Jersey, is coarser in bone and carries more flesh.

Next to the Jersey, the Guernsey produces the richest milk. In quantity the Guernsey yield often exceeds that of the Jersey.

Years ago the Jerseys and Guernseys were classed together and were known by the general name, Alderney. But later they have been recognized as separate breeds.

The Guernsey is an ideal family cow, color light yellow, reddish or fawn, a light feeder, but rich in milk production. The "Dolly Bloom," a Guernsey, cow, has a record of having produced in one year 17,297 pounds of milk.

Hereford Cattle

The Hereford takes its name from its native district Herefordshire, England, where it has flourished for the last one hundred years. As a milker it does not excel, but in the market shop it is good beef.

Larger than the Devons, and easily fattened, it is greatly esteemed, either unmixed or for crossing with inferior stock.

Galloway Cattle

The Galloway. This animal is noted for a hornless head, the result of cultivation.

Though not a prolific milker its milk is rich in quality and yields a large proportion of butter. In colors, black and brown, it originated in Southwestern Scotland.

Short-horn Cattle

Short-horn Heifer. This is one of the most admired breeds of cattle in the United States.

It is very large in size, weighing from 750 to 2,200 pounds, is principally raised for beef, which is of excellent flavor; fattens easily.

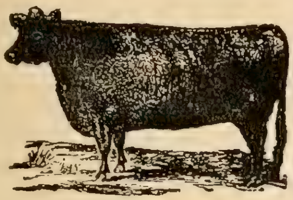
As a milk cow it yields from six to eight gallons a day, and from 12 to 18 pounds of butter weekly.

The principal distinguishing mark is its short horns, which curve forward and slightly downward from the upper level of the head.

The Latest Milk and Butter Production

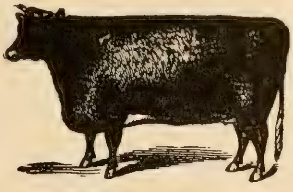
By Champion (Guernsey) Cow

KIND OF FOOD GIVEN THE COW, AMOUNT OF FOOD, HOW FED, Etc.



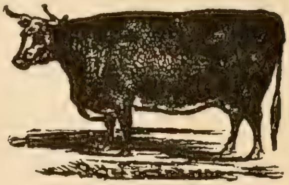
Galloway Cow.

The Galloway, originated in Southwestern Scotland. Hornless animal, milk rich in quality and yields a large proportion of butter.



Short-Horn Heifer.

The Short-Horn Heifer, one of the most admired breeds, comes from England, is excellent for beef and is a large butter producer.



Hereford Cow.

The Hereford, from Herefordshire, England, is valued highly for market purposes, fats easily and is of good size.

A few years ago a record of more than a thousand pounds of butterfat in 365 days was thought to be impossible, but a record of 1,059.59 pounds of butterfat produced in a year won the championship, for the Guernsey, May Rilma, a seven-year-old cow, which, in an official test finished in April, 1914, exceeded by 20 ounces the record of the Holstein, Banostine Belle DeKol. The Jersey record of just 14 ounces less than 1,000 pounds is held by Sophie 19th.

It is interesting to note that the record-breaking Guernsey, as well as her sire and dam, are American-bred cattle.

A few other facts with regard to this Pennsylvania-bred cow and her treatment during the test. Her weight is near the 1,300-pound mark; she gained flesh during the trial.

Rations during the test: She was given practically the same ration during every month of her high production. She received eighteen pounds of the following grain mixture daily:

250 pounds of bran
100 pounds of gluten feed
50 pounds of hominy feed
50 pounds of oil meal
50 pounds of cottonseed meal.

In addition to this she had three pounds of molasses and three pounds of dried beet pulp daily. The ration was divided into three feeds. For roughage she had all the alfalfa, clover hay, and corn silage that she cared to eat. The usual consumption of silage was thirty pounds a day. To make up for the rather small amount of silage she got away with a daily allowance of sixteen pounds of carrots.

This Guernsey was fastidious. She ate only those feeds that particularly pleased her—which helps to account for the good results. She refused to eat home-grown alfalfa, preferring the clover hay and Iowa alfalfa.

Another feed that she would not have on her menu was beets, carrots suiting her much better. When silage was put in the feed-box she picked out the tenderest parts and left the rest. She drank, it is estimated, about twelve twelve-quart pailfuls every twenty-four hours (about 300 pounds) of water.

The herdsman who milked the cow lived in a little cell right alongside the big box-stall, alert to the slightest change. By the use of a small stove and window ventilators he kept the temperature nearly uniform—from sixty to sixty-five degrees. Every day from April seventh to April seventh he milked the cow at four in the morning, at noon, and at eight o'clock at night.

Perhaps with similar care and considerate treatment, the yield of the average cow would be brought up to something over half of this champion's record.

May Rilma was sold at Edward B. Cassett's sale of blooded Guernseys, at Devon, Pa., Aug. 28, 1914, to John P. Crozer of Upland, Pa., for $5,010.

The World's Record

June, 1914.

Guernsey, May Rilma:	Pounds.
Milk produced in 365 days	19,639.50
Butterfat produced in 365 days	1,059.59
Butter (85 per cent fat) produced in 365 days	1,364.00
Milk produced in best month	1,839.90
Butterfat produced in best month	103.03
Average test	5.4 per cent fat
Highest test, one milking	6.9 per cent fat

Other Records

	Pounds.
Previous 365-day butterfat record—Banostine Belle De Kol (Holstein)	1,058.34
Previous Guernsey butterfat record—Daisy Pearl	957.38
The Jersey yearly butterfat record—Sophie 19th	999.14
The Ayrshire yearly butterfat record—Auchenbrain Brown Kate, 4th	917.60
Present World's butterfat record for seven days—K. P. Pontiac Lass (Holstein)	35.32
Present World's record for milk production in 365 days—Creamelle Vale (Holstein)	29,591.40

Sterilized milk or cream, properly speaking, is that in which all the germs have been destroyed (usually by repeated heating to 212° F.—boiling point), but in dairy practice the term is applied to milk or cream which has been heated once to a temperature of about 212° F.

Butter.—An oily substance obtained from cream or milk by churning. Agitation separates the fat or oily part of milk from the thin and curdy part, called buttermilk. The word comes originally from the Greek "bous," ox, cow, and "tyros," cheese.

Wide ration is one in which the ratio of protein to other constituents is wide, i. e., comparatively poor in protein.

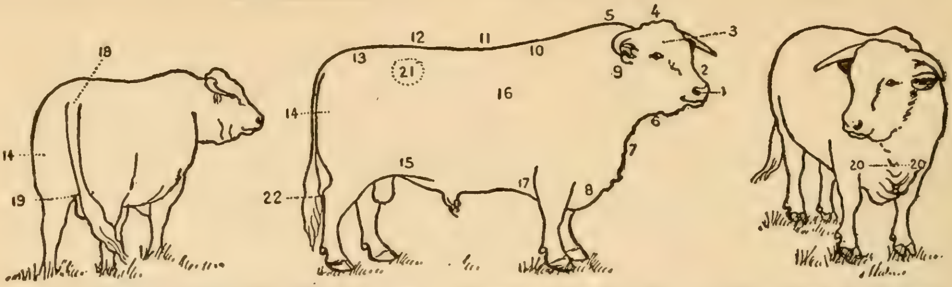
Guernsey Cow

The Guernsey, from the Island of Guernsey, England like the Jersey, is noted for its rich milk and excellent butter.

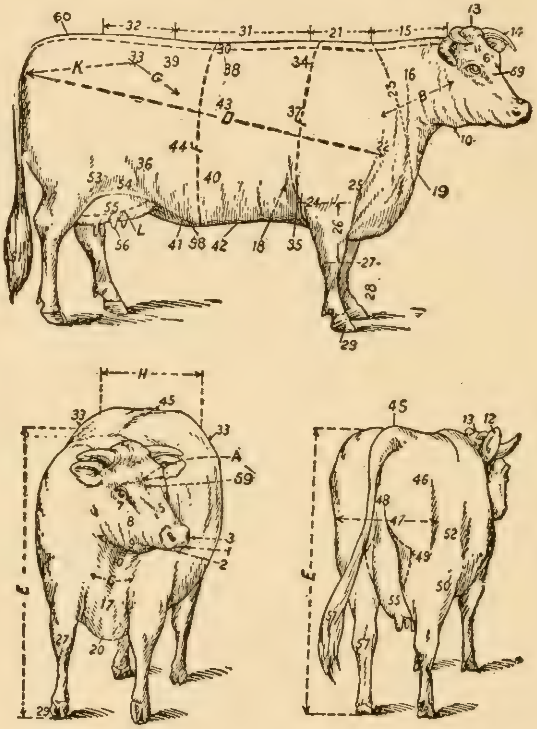
Tuberculin is a liquid in which the germs of tuberculosis have been grown but from which all live germs of the disease have been carefully removed. It is administered by hypodermic injection as a test for tuberculosis in animals, a rise of temperature after injection indicating the presence of the disease.

Bedding. Material used for stock to sleep on in the stable, both to keep the animal clean and to save valuable fertilizing ingredients from being lost. Cut corn-stalks are best; sawdust and shavings make more valuable bedding than straw, since they absorb water better and there is apt to be less waste of liquid manure.

Names of Points Describing Cattle



Names and location of points of external conformation of beef cattle. 1, muzzle; 2, face; 3, forehead; 4, poll; 5, crest; 6, throat; 7, dewlap; 8, brisket; 9, neck; 10, crops; 11, back; 12, loin; 13, rump; 14, thigh; 15, flank; 16, fore ribs; 17, fore flank; 18, setting on of tail; 19, twist; 20, breast; 21, hip; 22, hock. (Mumford.)



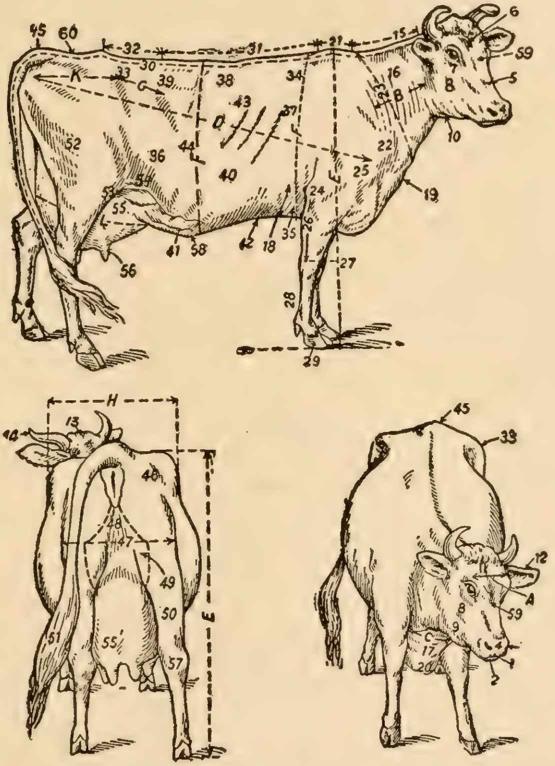
Points and measurements to be observed in judging beef cattle.

NAMES OF POINTS.

1. Mouth.
2. Lips.
3. Nostrils—airpassages.
4. Muzzle—bare.
5. Face—from muzzle to poll.
6. Forehead—from eyes to poll.
7. Eye.
8. Cheek—side of head below eye.
9. Jaw.
10. Throat.
11. Brains.
12. Ear.
13. Poll—top of head.
14. Horns.
15. Neck.
16. Neck—lateral view.
17. Breast or bosom—front of chest.
18. Fore flank—rear of arm.
19. Dewlap—loose skin underneath the throat.
20. Brisket—point of chest.
21. Withers—top of shoulders.
22. Shoulder point.
23. Neck or collar—depression in front.
24. Elbow.
25. Chest—cavity inclosing vital organs.
26. Arm—portion of leg between shoulder and knee.
27. Knee.
28. Cannon or shank—bone between knee and ankle in fore or hind leg.
29. Hoof.
30. Spinal column—backbone.
31. Barrel or coupling—middle piece.
32. Loin—muscle covering the short ribs.
33. Hooks or hips.
34. Crops—depression behind shoulder.

TO ALL PEOPLE DEALING EXTENSIVELY IN CATTLE

To Know the Points Is Very Important



Points and measurements to be observed in judging dairy cattle.

NAMES OF POINTS—continued.

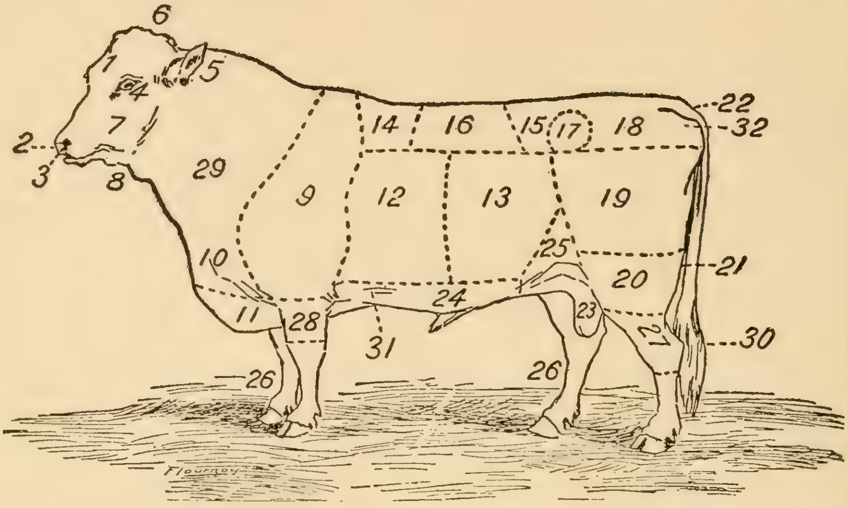
35. Girth at heart.
36. Girth at flank.
37. Fore ribs.
38. Chine—between withers and loin.
39. False or floating ribs.
40. Belly.
41. Milk veins—branched and tortuous ducts running forward beneath the barrel.
42. Orifices through which the milk veins enter the abdominal walls.
43. Mid ribs.
44. Abdominal depth, indicating digestion and constitution.
45. Tail head.
46. Pin bones.
47. Buttocks.
48. Escutcheon—covered with fine hair.
49. Twist—where hair turns on thigh.
50. Gaskin or lower thigh.
51. Brush.
52. Thigh.
53. Stifle.
54. Flank.
55. Udder.
56. Teats.
57. Hock.
58. Navel or umbilicus.
59. Dish.
60. Pelvic arch or sacrum—the arch bone between the loin and crupper.

ANIMAL MEASUREMENTS.

A. Width of forehead.
B. Length of neck.
C. Width of breast.
D. Length from pin bones to shoulder point.
E. Height at withers and hooks.
F. Girth at gore, flank, and navel.
G. Length of barrel depression.
H. Width of hooks.
K. Length of hind quarters.
L. Circumference of udder.

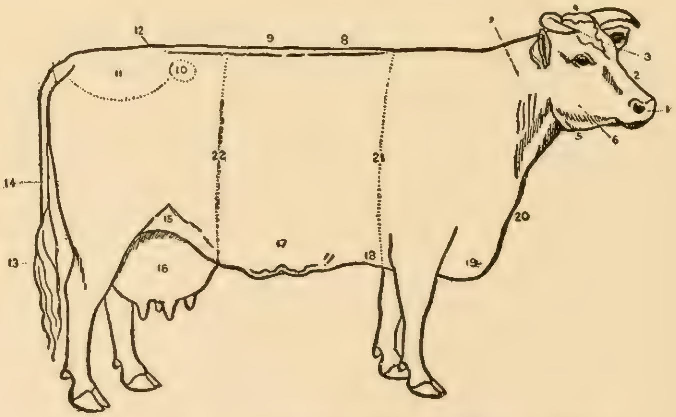
General Outline Description of Cow

NAMES OF THE DIFFERENT POINTS OF THE BULL



—Names of points.

1. Forehead and face.
2. Muzzle.
3. Nostrils.
4. Eyes.
5. Ears.
6. Poll.
7. Jaws.
8. Throat.
9. Shoulders.
10. Chest.
11. Brisket.
12. Fore ribs.
13. Back ribs.
14. Crops.
15. Loins.
16. Back.
17. Hooks.
18. Rumps.
19. Hindquarters.
20. Thighs.
21. Twist.
22. Base of tail.
23. Cod purse.
24. Underline.
25. Flanks.
26. Legs and bone.
27. Hocks.
28. Forearms.
29. Neck vein.
30. Bush of tail.
31. Heart girth.
32. Pin bones.



Names and location of points in external conformation of the cow.

1, muzzle; 2, face; 3, forehead; 4, poll; 5, lower jaw; 6, cheek; 7, neck; 8, back; 9, loin; 10, hip or hook; 11, rump; 12, pelvic arch; 13, switch; 14, thigh; 15, flank; 16, udder; 17, barrel or belly; 18, fore flank; 19, brisket; 20, dewlap; 21, heart girth; 22, loin girth. (Mumford.)

CRUELTIES INFLICTED UPON CATTLE

Good Treatment Means Better Stock and More Milk and Butter.

Because a cow does not appear in public quite as much as a horse, the abuses it has to endure have not received as much attention. Fortunately, of late years the government and the various agricultural colleges have been educating the farmer to see the business value of right treatment for stock. Cleanliness, protection from inclement weather, sufficient food and water, and kindly treatment have been demonstrated to have a direct bearing on the commercial value and productivity of stock.

In the case of milch-cows it goes without saying that the amount of milk, as well as its richness, is directly proportionate to the attention given to the animal. Every farmer realizes that his herd must be given milk-producing food of the right quality and quantity. He knows that the animal must be kept clean in order that it may be healthy and the milk free from disease. He knows that extreme cold and exposure cut down the yield of milk at once, and—if he is observing—he quickly realizes that mistreatment impairs both the quality and the quantity of the milking.

Most of the ill-usage of cattle is due to carelessness or shiftlessness. Nine times out of ten the prosperity of the farmer can be judged by the appearance of his cattle—and justly, for his herd may be made a big source of profit. Filthy barns, drafty and leaky, boggy barnyards, tainted water supply, have no place on the up-to-date dairy farm. Good clean bedding, well kept mangers, right kind of ventilation, coupled with protection from the weather, mean increased milk of superior quality. The farmer's pocketbook, as well as his heart, should prompt considerate treatment of his stock.

Cattle raised for market are commonly subjected to cruelties while in transportation. Legislation has remedied many of the abuses practiced in earlier days, and watering and feeding en route is compulsory at proper intervals. Overcrowding, especially where cattle are not dehorned, often results in injured stock, and always in loss of weight. The loss of weight on a long journey is almost unbelievable, and no stock raiser of good judgment increases this purposely by wanton cruelty. An animal less in the car at the beginning of the shipment is better than two or three less at delivery. The common custom of shipping calves by wagon, with feet bound together and heads hanging over the side is too inhuman to need more than mention. ''How would you like it yourself?'' ought to be the question every shipper asks himself. It would do away with much barbarity.

LARGE SHEEP
FOR MUTTON

SHEEP

FINE WOOL SHEEP
FOR FINE CLOTHING

THE DIFFERENT BREEDS OF SHEEP

The sheep was doubtless the first animal domesticated by man. It is frequently alluded to in the Bible. Abraham and his descendants were shepherds.

Wild sheep are found in the mountainous regions of various parts of the world. The Big Horn is found in the rocky regions of North America.

The original wild sheep is said to be a native of Asia and from that country came to this, possibly, by way of ice across Behring strait.

The wild sheep is clothed with short wool, having an outer covering of long hair. The effect of domestication has been the disappearance of the outer hair and an increase in the length of wool.

Today the domesticated sheep are found wherever we find man. The various breeds are numerous and the manufacture of wool into the different kinds of cloth and the changing of the cloth into various articles of wearing apparel are among the largest industries on earth.

Sheep raising is one of the important departments of agriculture, claiming attention in all the mountainous regions of the United States. It is a very profitable feature of farming, sheep being valuable for food, while being sure to yield a valuable fleece necessary in the manufacture of clothing.

As one of the prime necessities wool is always in demand. To make sheep raising highly profitable it is only necessary to provide the flock with fair pasture, with shelter against inclement weather, protection against wolves and sheep-killing dogs.

Success in Sheep Raising

Having determined to go into sheep raising the immediate rule to adopt is to get the best of the breed selected.

Much will depend on the ram. He should be a thoroughbred. Common sheep bred to him will be greatly improved in their progeny. He should be kept apart from the ewes, stabled at night and well fed with grain. The ewes should be admitted to him singly and but once each. Carefully treated thus a ram will be able to serve fifty or sixty ewes in a season.

Ewes should not be bred from until two years old. If spring lambs are being raised for early market the time for lambing must be arranged accordingly. The period of gestation with sheep is five months.

Feeding and Care of Sheep

From the illustrations we have given and description of the different breeds the farmer will determine for himself whether sheep raising for wool or for mutton is the most profitable.

If near a large city with the advantage of a close-by market he may find it most profitable to raise sheep and lambs for market. If located many miles from a market place, with a hilly, mountainous region favorable for pasturage, he may find it best to devote all his energies toward raising sheep solely for wool. In that event, whether it shall be a fine or a coarse wool, he must determine by market conditions, and his facilities for caring for a large flock.

If intending to go extensively into sheep raising it will be well to make careful study of the subject, procuring the best books treating on sheep husbandry, in the meantime visiting large sheep owners and studying their methods of management to acquire knowledge of successful sheep farming.

Effect of Crossing Breeds

The Farm and Home Cyclopedia, under the editorship of H. R. Allen, gives the following concerning sheep raising. "The following crosses upon common sheep have been recommended for several purposes indicated. A cross of Cotswold will increase the length and quality of the fleece and largely increase the weight of carcass over that of the common ewe.

A cross of Southdown will greatly improve the quality of the mutton, increase the quantity, thicken the fleece somewhat, and give it some additional weight.

A cross of the American Merino will materially increase the weight and quality of the fleece. The size of carcass will not be much increased, though improved in symmetry.

The Ewe During Pregnancy.—During pregnancy the ewes should be well cared for, and those expected to drop their lambs early in the spring closely watched. As the time approaches for parturition the ewe should be separated from the flock and placed in comfortable quarters. Ewes should be well fed during their entire pregnancy, but not kept fat. They should also have exercise.

Protection of Ewe and Lamb.—The ewe should have a dry, warm place, where she and her newly-born lamb can be protected from wet and cold. A shed enclosed so as to shut off the wind will answer. If the weather is very cold protection should be something warmer. If the lambs come later in the season—and for the general flock about the first of May is the best time—less shelter and less care generally will be required. The main thing at any time is, to prevent either the ewe or the young lamb from becoming chilled.

The Young Lamb.—After the lamb is dropped the ewe will generally lick it dry. If, however, she refuses to do this, it should be carefully wiped dry. The lamb will soon attempt to suckle; if it does not, it should be assisted. If the ewe refuses to own the lamb, she should be held while it suckles. If this is repeated a few days she will own it.

If the lamb is intended for early market it should be taught to eat when quite young. Feeding may begin at about three weeks of age. Indian meal or oatmeal gruel may be given it. The ewe, at the same time, should be fed bran, oil cake or oat meal. Heating food like corn should not be given her. The lamb in a very short time may be given oats and hay.

Weaning.—Lambs should be weaned when about four months old. They may be left in the pasture where they have been running with the ewes, and the ewes removed to some other place and be put upon dry food to stop the flow of milk. Their udders should be watched and if they become distended, should be relieved by milking. If at all feverish they should be bathed with tepid water.

Treatment of Lambs.—In addition to pasturage the lambs should be fed daily a little oats.

General Directions in Care of Sheep

MANAGEMENT OF SHEEP

On Prairie Farms

On prairie farms, or where lumber is high, good shelters may be made by the use of poles and straw, or dry grass. These shelters should open to the south and be made with poles and grass, and should be from six to eight feet high; if from lumber, they may be made as high as the fancy of the farmer or his purse may dictate. They should always have good ventilation. Fresh air is as necessary as warmth. Shelterless flocks may live during the winter, but they will require double the feeding of those kept dry and warm.

Racks or mangers should be placed in the sheds, in which the sheep should be fed. The feed should never be given them on the ground. Where racks are used there should be a tight trough beneath to catch such particles of hay as fall through.

Food and Fattening

Food and Fattening.—Sheep should not be suddenly brought from grass to hay. Feeding should begin on the pastures before the sheep are finally removed to winter quarters.

Hay and small quantities of grain should be given them, the quantity being increased gradually until they are transferred to winter quarters. They should not be permitted to fall off in condition when the change is made and they should be kept in good condition during the winter. Good feeding and care during the winter will add to the weight of the next year's fleece. The best food for sheep during the winter is good hay and corn, with straw and roots occasionally.

Sheep Thrive the Best

Sheep thrive the best on a variety of food. Oil meal makes an excellent food during the winter. Clover hay is regarded by many as much superior to any other kind. Wheat bran is also esteemed by many as a desirable food, to be given with corn. Sheep intended to be fattened for spring market, when mutton is generally scarce and high, should be kept in good condition during the winter. As spring approaches, their food should be increased. Sheep should be bedded with straw. This is the best way of saving the manure. The bedding should be renewed every day, as cleanliness is essential to the health of sheep. When the weather is very cold the daily average of food should be increased, a larger amount of grain being given.

Salt should be given at least twice a week. Or, what is better still, keep it in the bottom of the rack all the time, so they can get it when they want it.

Summer Management

Summer Management.—As soon as spring opens and the grass begins to appear the sheep will manifest their impatience for the pasture by restlessness and bleating. When the pastures are large and naturally dry they may be turned out as soon as they can find grass enough for a bite if the weather is fine. They should not be permitted to eat too freely of the green food, however, at first, as there is danger of purging them excessively.

If roots be given them for a few days before turning them on pasture it will, in a measure, prepare their systems for the change and the grass will not affect them so seriously. It is also a good plan to bring them into the yards every night and feed them with hay for a week or ten days. After this time the management of sheep is simple and easy during the summer and until the grass begins to shorten in the fall.

Pasturage

With sheep, good pasturage with plenty of water and shade and frequent saltings is all that is necessary. A range of woods in addition to open pasture is desirable, as sheep consume a great variety of weeds and shrubs and will thrive on a diversity of foods. Some farmers anticipate the drying up of pastures during summer and provide green food by sowing rye or corn broadcast, on which the sheep are turned when the grass becomes short. White mustard has also been used with advantage for this purpose.

The sheep is naturally a shy animal, but is exceedingly docile, and if kindly treated will learn to entertain an affection for its keeper. This will render the management of the flock, under all circumstances, much easier and more satisfactory than when the sheep are wild. Lambs should be castrated when about four weeks old.

Winter Care

Winter Care.—When winter approaches and the severe frosts of late autumn have diminished the quantity and quality of food found in the pasture, sheep should be brought into winter quarters. They should be removed from the grass before the fall rains set in, as often the ground becomes softened and their continuance on the pasture will injure the health of the sheep and ruin the sod.

Dry Yards

Dry yards and comfortable sheds should be provided for winter. The larger the yards, if dry, the better for the sheep, as they require a good deal of exercise during the winter months. The yards should be made absolutely dog-proof, and in a region infested by wolves, foxes, or other sheep-destroying animals, the fences should be such as to keep them out.

When Large Flocks of Sheep

When large flocks of sheep are raised and they are seen by their keepers during the day it will be necessary to have them protected from dogs and other animals at night. When brought from pasture to the yards, it is a good plan to separate the young and feeble sheep from the stronger ones and keep them in separate yards. This will enable the farmer to bestow special care where it is most needed. Every sheep yard should be supplied with plenty of fresh water. The sheds or shelters attached to each yard should be dry and made with reference to the climate.

Sheep Should Have Shelter

Sheep should have shelter in all climates, but in northern latitudes, where the winters are severe, their shelter should be more than an open shed. They should not only be kept dry, but warm. The shelters should be so constructed that the sheep may come in and go out at will. In regions where timber is plenty and cheap, of course sheds or stalls regularly constructed of lumber are the most desirable.

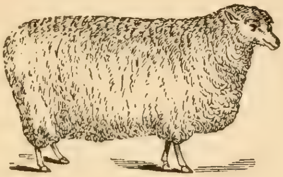
No domestic animal is more readily affected by adverse circumstances than the sheep, and none has less power to resist them. Therefore, it is urged upon farmers, if they wish to raise sheep with profit, to give them the most careful attention.

Profits of Sheep Raising

When intelligently followed, the breeding and raising of sheep is one of the most profitable and pleasant branches of general farming. But to make it profitable the farmer must give it the most vigilant attention. The idea that sheep can take care of themselves better than almost any other domestic animal is erroneous and fatal in its practical workings.

The Different Breeds of Sheep

THE FINE WOOLS AND THE COARSE WOOLS



Cotswold Sheep.

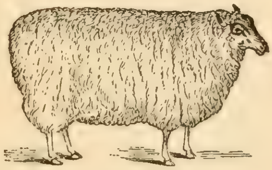
The Cotswold yields, generally, a fourteen-pound fleece

Cotswold Sheep

Valued for its mutton and for its annual 14-pound fleece of wool.

This sheep takes its name from the Cotswold hill district of England. It was at first bred upon the hills and fatted in the valleys of the Thames and Severn rivers.

The modern Cotswold is a cross between the original stock and the Leicester. It is valued both for its mutton and wool, the first of which is considered, and the latter yields 14 pounds per head per annum. The weight of the animal varies from 200 to 300 lbs.; it has a hardy constitution, thrives well in pasture, has an average increase of 500 per cent. in five years, valued at $200; is docile in disposition: its cost of keeping is about $2.25 per head yearly: and prices for bucks and ewes of the best grades range from $40 to $60 each. This is the highest price asked for any breed of sheep in this country.



Leicester Sheep.

The Leicester gives a coarse long wool.

Leicester Sheep

Noted for a 6-inch-long wool which is admirable in the manufacture of knit goods.

The Leicester was formerly an inferior breed existing in mid-England, heavy, large and coarse in wool; but after years of improvement instituted by Robert Bakewell in the 18th century its quality changed for the better.

General Washington introduced the Leicester into this country, and today it ranks nearly equal to the Cotswold.

Its weight ranges from 150 to 200 lbs. The flesh is palatable and nourishing. The yield of wool at a clip is 8 pounds. Its constitution is hardy, its disposition is docile and it is a fair forager. Its average of increase is 500 per cent. in 5 years, valued at $100. Annual cost of keeping, $2.25.

The wool is long, averaging at the second shearing, and afterward, six inches. Its coarseness and length prevent its extensive use in the manufacture of woven cloth, but for knit goods it is excellent.

Cheviot Sheep.

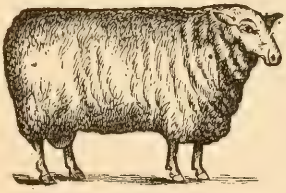
The Cheviot yields a fine wool

Cheviot Sheep

The Cheviot is a native of Scotland, bred among the Cheviot hills, and ranks well as a middle-wooled sheep.

In its home it is much inferior to the improved American breeds, somewhat resembling a cross between the Leicester and a common sheep. It is by nature hardy, thriving on poor food and bravely enduring winter storms, fattening under indifferent treatment, and is described by Mr. Spooner as having a white face and legs, an open countenance, lively eyes, large ears, a long carcass, circular ribs, good quarters, legs and body covered with wool which is fine, and yields a fleece averaging 3½ lbs.

Formerly the wool was extensively used for making Cheviot cloths.



Oxfordshire Down Sheep.

The Oxfordshire Down gives fleece of long wool.

Oxford Down Sheep

The Oxford Down is a recent breed established in England from a series of cross breeding and received its name in 1857.

The only claim it has to Down is its color, while its size and wool class it among the long-wooled sheep.

Partaking originally of Hampshire, Cotswold and some Southdown blood its patrons, by interbreeding, have produced this animal, which possesses the advantages of uniform excellence, a hardy constitution, a large frame and a good fleece; fattens easily and yields mutton of superior quality.

A gentleman who first imported it into the United States speaks highly of it, the unwashed fleece weighing 8½ lbs., and the yield of lambs 275 per cent. on the number of breeding ewes. It has an admirable form.

The Different Breeds of Sheep

FINE WOOLS AND COARSE WOOLS

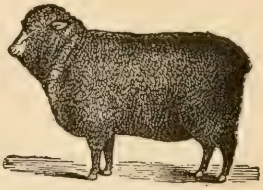
Merino Sheep

Highly valued for its 10 to 20-pound finest white wool.

The Merino of today is a descendant of either the ancient Spanish or the Saxon animal. The American Merino, now a distinct breed, is of Spanish origin, and was introduced into the United States about the beginning of this century.

Of medium size but well proportioned, it has a well rounded and full body; weighs from 130 to 150 lbs.; is heavily covered with rolls or folds of the finest white wool of which it yields a clip of from 10 to 20 lbs. and for which it is most greatly valued, its flesh being considered only fair mutton.

It has a hardy constitution; is of the best of foraging sheep; its forehead and cheeks are thickly covered with wool; its legs are short and strong and encased in wool, and like all other sheep it manifests a gentle disposition. Crossing it with inferior stock improves it.



Merino Sheep.

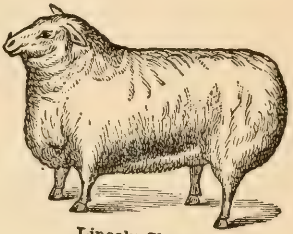
The Marino bears a fine white wool, the fleece weighing from 10 to 20 pounds.

Lincoln Sheep

The Lincoln is another English sheep classed as a long-wool which has been imported into this country and here crossed and recrossed with Leicester and Cotswold breeds until it partakes largely of their respective characteristics.

A ram and ewe of the Lincoln were imported in 1835 from Yorkshire, England. The flock formed of their progeny was generally regarded as very valuable, being hardy in constitution, hearty feeders, and very prolific.

The present animal ranges in weight from 200 to 300 lbs.; matures at 2 years; has a hardy constitution; gains an average increase of 500 per cent., yields 11 lbs. of wool annually; is raised both for wool and mutton, the latter of which is good.



Lincoln Sheep.

The Lincoln yields a fleece of long wool.

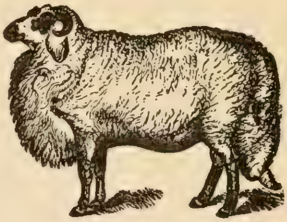
Fat-tailed Sheep

The fat-tailed sheep demands attention on account of its remarkable peculiarities.

It is undoubtedly derived from Syria, where the early shepherds dwelt with their flocks, but it is now found scattered over a large extent of country.

One of these sheep of the weight of 50 or 60 lbs. will carry a tail weighing 15 or 16 lbs. In cases where it has been carefully fattened until it turned the scale at 150 lbs. the tail has weighed fully one-third that amount.

The tail is broad and rather flat, mostly covered with long wool, as shown in the engraving, and entirely formed of a substance between marrow and tallow; and this, it is said, is used in households instead of butter.



Fat-Tailed Sheep.

The Fat-Tailed has a tail weighing 15 to 16 pounds.

Dorset Sheep

The Dorset sheep is a valuable breed peculiar to Dorsetshire, England, but bearing some resemblance to that of Devonshire.

Most of them, especially of native purity, are entirely white, with a long and broad face, having a tuft of wool on the forehead; the shoulders are low but broad, the back straight, the chest deep, the loins broad, the legs rather long, and the bones small.

They are, as the form of the ewe in the illustration indicates, a hardy and useful animal, furnishing a profitable fleece and well flavored mutton.

The wool is not as good in quality as that of the Southdown, but is intermediate, between the short-wooled Down and the Devon.

Dorset Sheep.

The Dorset is a valuable breed.

The Different Breeds of Sheep

FINE WOOLS AND COARSE WOOLS

Black-Faced Sheep.

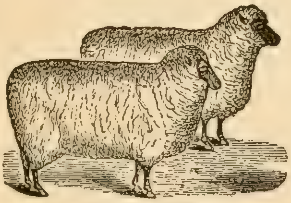
The Black-Faced has a long open wool.

Black-faced Sheep

Whatever its origin, has been for centuries bred in Scotland, and it is related that one of the Scottish kings kept 5,000 of them for use of the royal household.

The modern specimens have mostly horns with more or less spiral twist, but the ewes are frequently without horns. The faces and legs are either black or mottled; the eyes are wild and fierce. They are covered with wool about the forehead and lower jaw, and the wool generally is somewhat open and long, and coarse and shaggy—not so long, however, but the sheep may be properly classed among the middle-wooled breeds.

They are active and hardy, and endure cold weather better than any other sorts of sheep, except the Cheviot.



South-Down Sheep.

The South-Down yields a wool used in the manufacture of flannel goods.

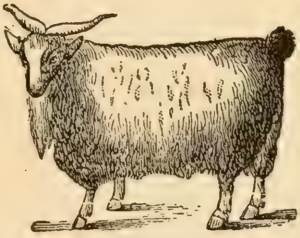
Southdown Sheep

The Southdown originated in the southern part of England; is one of the oldest breeds now known and has attained a wide popularity both on account of its excellent mutton and the good quality of its wool.

It belongs to the hornless class of sheep, is of medium size, weighs at 2 years old from 140 to 200 lbs.

Its constitution is hardy; it thrives well in pasture; is docile in disposition and yields 9 lbs. of wool at a clipping.

The wool, which is coarse and light colored, is used in the manufacture of flannel goods. The sheep itself has a good shape, is well proportioned and presents a fine appearance. Crossing with other breeds always improves the stock.



Angora Goat.

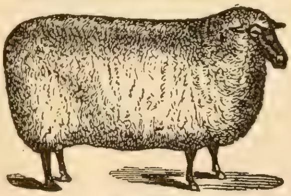
The Angora Goat, named from the province of Angora in Asia Minor, yields a silky white hair, 8 inches long, from which the mohair shawl is made.

Angora Goat

The Angora goat takes its name from the capital of the Turkish province of Angora in Asia Minor, the mild climate of which has been instrumental in producing the valuable products of this animal—a beautiful, silky, white hair, 8 inches long, and a skin from which fine Oriental morocco is manufactured.

The hair is made into what is known as Turkish yarn, or mohair, and then wrought into shawls and camlet cloths. Importations of this goat into Europe deteriorate the quality of its hair.

At home it is sheared twice a year. It is estimated that in 1909 the province of Angora contained a million of these goats, from which the annual yield was 2,700,000 lbs.



Shropshire Sheep.

The Shropshire is esteemed for mutton.

Shropshire Sheep

The Shropshire, as its name indicates, is a native of the county of Salop, northwesterly from London, England, and was originally, but is not now, a horned sheep.

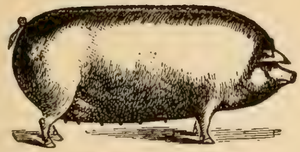
Its weight varies from 140 to 200 lbs.; it yields 6 lbs. of wool at the clip; is more esteemed for its flesh than for quantity or quality of its wool and is considered fair eating.

Having a hardy constitution and thriving in pasture, it is an economical sheep.

It was distinguished about a century ago, aside from its horns, by the color of its face, which was either black or brown or spotted. The present breed is more or less mixed with the Leicester, Cotswold or Southdown, and to its native excellence are added many of the good qualities of the sheep named.

The Morfe is a favorite variety of the Shropshire, which is very numerously bred.

SWINE



Chester White Hog.

The Chester White, a white swine of Chester Co., Pa., weighs, when 18 months old, from 350 to 400 pounds.

Essex Hog.

The Essex, which originated in England, is excellent for bacon, lard and hams, weighs at 18 months, from 300 to 350 pounds.

Berkshire Hog.

The Berkshire, originally from England, weighs at 18 months from 325 to 375 pounds.

Whether or not one goes into the raising of swine on a large scale, it is profitable to keep a few hogs either in small towns or villages, on suburban grounds, or on a farm, since they will eat up the garbage and dispose of the by-products of the dairy, the skim-milk and the surplus buttermilk, in a profitable way.

The hog is normally omnivorous—eats everything. Nature fitted him for using the bread of the forest—roots, herbs, acorns, and natural grasses. But the food should be in good condition.

Innumerable wastes and unused chances to economize let the profit leak away from the average farm. One of the basic principles of profitable pork production is that the hog shall carry to market, in addition to corn, some cheap material, such as clover. The too exclusive use of corn in swine feeding causes a great annual loss to the Middle West.

In addition to the feed supplied, there are other benefits from pasturing. Grass is flesh, but the pasture is much more. The hog obtains from the soil and from the pasture things that cannot be attributed to protein, fat, or carbohydrate eaten. Minerals from the soil and the exercise required as part of the price of the day's provisions are two of these benefits. On the other hand, the fields are enriched as the hogs are fattened.

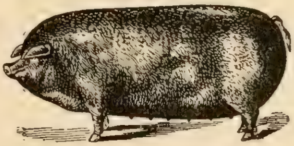
No matter to what extent breeding has adapted the hog to concentrates, he still thrives best with some coarse forage. Enough nourishment is obtained from grass, rich in bone and muscle-forming elements, to maintain his body, and the grain given is converted into gain. Nitrogenous concentrates are needed in dry-lot feeding, but grass reduces this need.

Gains on pasture are made from 20 to 30 per cent cheaper than in the pen, which means usually that they are twice as profitable. Corn worth a dollar fed to hogs in dry lots may readily produce pork to the value of $1.25, while if fed to hogs on pasture it could as easily be expected to produce gains in weight worth $1.50, even after making allowance for the value of the pasture.

Weight of Different Breeds of Hogs

Suffolk Hog.

The Suffolk, imported from England, matures at two years and weighs from 300 to 350 pounds.



Poland-China Hog.

The Poland China originated in Southwestern Ohio by crossing native stock with Chinese. Average weight at 20 months 316 pounds.

Jersey Red Hog.

The Jersey Red was first raised in New Jersey. Matures early and weighs from 400 ot 450 pounds.

Pastures Are Safer Than Pens

The parasite enemies of swine are most apt to infest small yards and pens. The ravages of cholera, swine plague, and other sicknesses are most readily escaped in the open field. The intestinal tract, distended with grass, is in a more healthful condition, and the heating and fever-starting effects of corn are offset.

Alfalfa makes an excellent hog pasture. It comes early, is abundant, rich, palatable. Everyone cannot produce it, so here is the opportunity for red clover, which ranks a close second, especially during its head-forming period. Alfalfa is more permanent, but both go well in the rotation. Clover should maintain 800 pounds and alfalfa 1200 pounds of growing hogs per acre, beginning in April, and yet allow for clipping a small yield of hay from one to three times during the season. The money returns are increased thereby, while the tough old stalks are removed and the hog's appetite is stimulated by a tender new growth.

Rape stands highest of the spring-sown forages. Even with abundant clover and alfalfa, rape sown in the small yards and pens used by the hogs in winter will add spice to the ration. This crop is more appreciated with every new trial. Formerly rated as a carbohydrate, it is now known as a liberal provider of protein.

Hogs: Weight at Maturity

Chester White

The Chester White is an American breed, supposed to have originated from the crossing of the Bedford hog with the native white swine of Chester County, Pennsylvania—hence the name. They have been known nearly a hundred years, since 1818, in which year the Bedfords were imported from England. The present excellence of the breed is traced to the careful selection and crossing by the stock-owners of its native county, and it is now considered a well-built and easily fattened animal. Its weight when a year and a half old ranges from 350 to 400 pounds and its price from $10 to $25.

Essex

The Essex, now a prime favorite, originated in England, and until improved by crossing it with the Neapolitan hog — about eighty years ago — was a coarse black and white animal, large in frame and a slow eater. The result of crossing and breeding in-and-in is a hog of small or medium size, rivaling the Berkshire in feeding and fattening, and in the excellent quality of its lard, bacon, and hams. When a year and a half old its weight ranges from 300 to 350 pounds, and its value from $10 to $25. Its fattening qualities are equal to the best of any other breed, and, being a fair forager when at large, it is as economical as any.

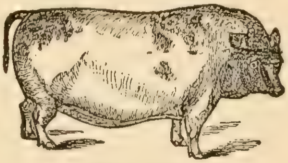
Berkshire

The Berkshire was originally, in its English home, of a reddish color spotted with black, and the breed is known to have existed hundreds of years ago. The modern Berkshire is the result of crossing with Siamese, Chinese, and Neapolitan stocks, and it ranks high as a handsome and profitable hog. At eighteen months old its weight ranges from 325 to 375 pounds; its fattening qualities are of the best; its disposition is gentle; its prevailing color is black; its neck short; its back broad and slightly curved; its body of medium length. It is greatly esteemed in England and America.

Cheshire Hog.

Cheshire

The Cheshire, one of the old English breeds, has been superseded in this country by another of more modern origin, established in Jefferson County, New York, and possessing greatly improved qualities. From that locality it has been widely distributed throughout other portions of the United States, having a good reputation as a stock hog. It has a long body; a long, slender, well-shaped head, with full cheeks; fine, erect, and thin ears; full hams; wide shoulders; a thin, pink skin; hair, thin and pure white; fine-grained flesh, and is greatly valued for the amount of clean mess pork it yields in proportion to its offal. The old Cheshire hog is from 3½ to 4½ feet high.



Chinese Hog.

Chinese

The Chinese, unless mixed with better and more profitable breeds, can hardly prove a satisfactory investment for a progressive pork raiser. Crossed with the Polish hog or the Berkshire, great improvement and consequent increased value are attained. There are two varieties, one white and the other black, which differ little in their characteristics. Both fatten easily, and while in most other hogs this is an excellent trait, it adds nothing to the worth of this animal, its meat becoming too greasy for pork and unfit for good bacon. Its appearance is not prepossessing.

Suffolk

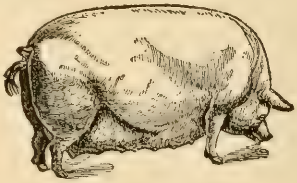
The Suffolk, imported from England many years ago, has become a great favorite in this country, but has undergone certain changes. The original breed was long-bodied, with a narrow back, a wide head, small hams, and white hair. The modern Suffolk matures before it is two years old and weighs from 300 to 350 pounds. It fattens fairly in pasture or pen; has a hardy constitution, small bones, broad shoulders, a short body, short nose, moderately long hair of a white color, and possesses a docile disposition. The best breed is that produced by crossing with the Chinese or Lincoln.

Poland-China

The Poland-China originated in southwestern Ohio and is the progeny of the native Ohio stock united with the Chinese, Poland, and other swine, between 1815 and 1825. By careful selection and cultivation the value and excellence of the breed were maintained and improved by crossing it with the Berkshire and the Irish Grazier, until a very perfect stock has been established. At twenty months old the average weight is about 416 pounds, and for fattening purposes it is reckoned among the best. It thrives well in the fields, having a hardy constitution, is a hearty feeder, and has a docile disposition.

Jersey Red

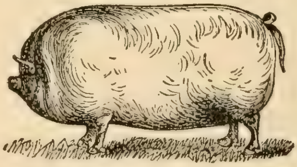
The Jersey Red, first raised in New Jersey, is supposed to be a descendant of the original Polish hog. It reaches maturity early, weighs 400 or 450 pounds, is a good feeder and fattens readily; has a hardy constitution, a long nose, lop ears, a long body, long legs, large bones, long red hair, a heavy tail, coarse, inclining bristles; is sluggish in action, docile in disposition, a prolific breeder, and a fair nurse. The Duroc hog, first well known in Saratoga County, New York, is of finer bone and carcass than the Red, which it resembles in color, while its shape is very similar to that of the Poland-China. It grows to a large size and is very hardy.



Large Yorkshire Hog.

Yorkshire

The large Yorkshire hog, essentially English in origin, has become an American representative of the mammoth race of swine. The unimproved animal was hardy and quite a prolific breeder, but seldom exceeded 800 pounds in weight. Experiments in crossing it with the Berkshire succeeded in producing a hardy, useful hog that fattened too slowly to be profitable. Crossing it with the White Leicester resulted in a large animal with a smaller head than the Yorkshire, specimens of which have weighed from 1,100 to 1,200 pounds.



Small White Yorkshire Hog.

The small White Yorkshire, a native strain of the English Yorkshire hog, is little known to American farmers. The official report of one of the swine breeders' conventions says: "The Yorkshires are the most valuable swine to breed from or to cross with that are obtainable. Size, shape, and flesh are desirable for family or for packers' use, as they have hardy, vigorous constitutions, a good coat of hair, are very quiet, and good grazers, feed well, fatten quickly at any age, and are very prolific."

SEVENTY
DIFFERENT BREEDS

POULTRY RAISING

BEST FOR LAYING
AND MARKET

Kind of Food, How Feed and Successfully Raise Poultry

Poultry and eggs constitute in the aggregate one of the most important and valuable products of American agriculture. The general consumption of poultry and poultry products by nearly all classes of people furnishes home markets in almost every city and town in the United States, at prices that will return a good profit to those who exercise good judgment in the management of the business.

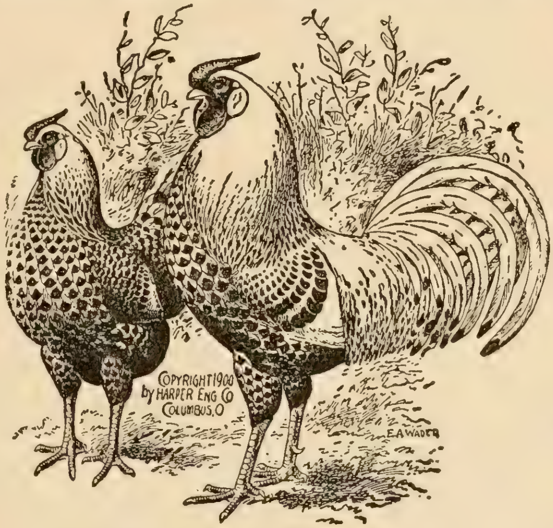
If you intend to make a business of poultry raising, remember that, like any other business, it will require work as well as good judgment. Not much hard labor will be required after the poultry plant is once established and houses and runways built, but some exertion will be found necessary and the successful operator must also possess ambition and patience.

There is no industry more widely distributed in the United States, nor more generally profitable. The demand for poultry products is almost unlimited. Thousands of farmers' wives clothe the family from the profits of the hennery; large poultry plants in countless number pay good dividends, and on every hand, in city and village, are backyard poultry raisers who keep their tables well supplied with eggs and chickens, besides adding to their savings from the profits of the poultry yard. As an American industry it ranks next to corn when its products are figured in dollars and cents.

The poultry business offers large opportunities to the man of small capital and plays an important part in attracting city-dwellers back to the land.

HENS THAT HAVE LAID 217 EGGS AND MORE IN ONE YEAR

ILLUSTRATION FROM MRS. BERRY'S "PROFITABLE POULTRY"



SILVER SPANGLED HAMBURG

**Name of Breed,
Town, Where Laid,
Exhibitor and
Number of Eggs**

Silver Wyandotte
Eggs laid, one year, 217
Missouri

—

White Wyandotte
Eggs laid, one year, 217
Exhibitor, S. L. Todd
Green Forest, Ark.

—

Single Comb Buff
Leghorn
Eggs laid, one year, 218
Exhibitor,
E. D. Sheldon
Afton, N. Y.

—

Single Comb White
Leghorn
Eggs laid, one year, 219
Exhibitor, Tom Barron
Catforth, England

—

Buff Wyandotte
Eggs laid, one year, 220
Exhibitor, C. H. Rogers
Eagleville, Mo.

—

Silver Wyandotte
Eggs laid, one year, 220
Exhibitor,
V. G. Warner
Bloomfield, Iowa

—

Black Langshan
Eggs laid, one year, 221
Exhibitor, Ed Floyd
Mt. Grove, Mo.

—

Buff Wyandotte
Eggs laid, one year, 222
Exhibitor, C. H. Rogers
Eagleville, Mo.

Black Minorca
Eggs laid, one year, 224
Iowa

—

Leghorn
Eggs laid, one year, 225
Exhibitor,
Walter Hogan
Petaluma, Cal.

—

Single Comb White
Single Comb Red
Eggs laid, one year, 228
Exhibitor, Lakemont
Poultry Farm
Winter Park, Fla.

Silver Wyandotte
Eggs laid, one year, 229
Exhibitor,
V. G. Warner
Bloomfield, Iowa

—

White Orpington
Eggs laid, one year, 232
Kentucky

—

Silver Wyandotte
Eggs laid, one year, 232
Exhibitor,
V. G. Warner
Bloomfield, Iowa

**Name of Breed.
Town, Where Laid,
Exhibitor and
Number of Eggs**

Single Comb White
Leghorn
Eggs laid, one year, 233
Missouri

—

Rose Comb Red
Eggs laid, one year, 235
Exhibitor,
M. L. Puckett
Puxico, Mo.

—

Ancona
Eggs laid, one year, 236
Exhibitor,
Mrs. Daisy Rose
Bois d'Arc, Mo.

—

Buff Wyandotte
Eggs laid, one year, 253
Exhibitor,
Crawford & Saylor
Maryville, Mo.

—

Buff Wyandotte
Eggs laid, one year, 255
Exhibitor, J. H. Clark
West Pawlett, Vt.

—

Single Comb White
Leghorn
Eggs laid, one year, 258
Exhibitor, Tom Barron
Catforth, Eng.

—

Rose Comb White
Leghorn
Eggs laid, one year, 260
Exhibitor,
Jno. S. Gross
Maryville, Mo.

Buildings and Yards

The location and construction of the poultry house are of prime importance, especially on the farm or where the plant is large. Poultry keeping is wholly a business of details and buildings not conveniently located and arranged become expensive on account of unnecessary labor.

As it is necessary to visit poultry houses several times each day in the year, convenience is of more importance than in the case of almost any other farm building.

A dry, porous soil is always to be preferred as a site for buildings and yards. Cleanliness and freedom from moisture must be secured if the greatest success is to be attained. Without doubt, filth and moisture are the causes, either directly or indirectly, of the majority of poultry diseases, and frequently of failure in the business.

Poultry houses are likely to be more or less infested with rats and mice, unless some means are provided to exclude them, and this should be taken into account in selecting a location. It is generally best to locate the poultry house at some distance from other farm buildings, especially if grain is kept in the latter. Convenience of access and freedom from vermin are the two desirable points to be secured, and they depend largely upon the location. Everything considered, it is safest to have the house quite isolated.

Raising Poultry for Profit. Poultry Houses

The material to be used in the construction and the manner of building will necessarily be governed largely by the climatic conditions. In general, it may be said that the house should provide warm, dry, well-lighted and well-ventilated quarters for the fowls. In order to meet these requirements it will be necessary to provide a good roof with side walls more or less impervious to moisture and cold, suitable arrangements for lighting and ventilating, and some means for excluding the moisture from beneath.

Where permanent buildings are to be erected, some provision should be made to exclude rats and mice, and for this reason, if for no other, the structure should be placed on cement walls with foundation below the frost line.

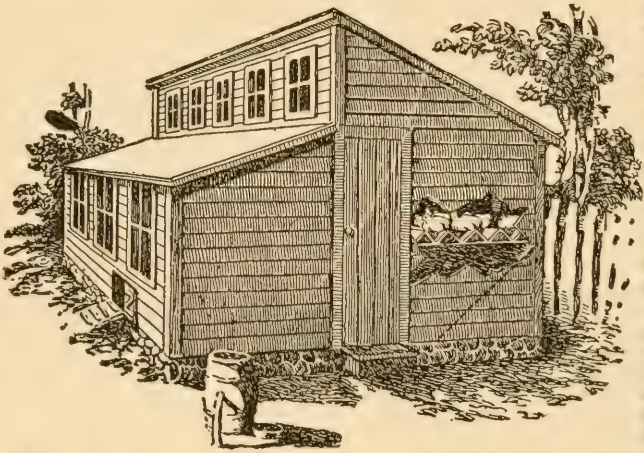
It is essential to have the different pens or divisions in the house so arranged that each one will receive as much sunlight as possible. Each pen in the building should have a separate yard or run, and a pen should not be made to accommodate more than 50 fowls, or, better still, from 30 to 40.

In all poultry houses in cold latitudes the windows should be placed in such a position that they will give the most sunshine on the floor during the severe winter months. A very common mistake is to put in too many windows. The windows should not be large nor more than one to every 8 or 10 feet in length for a house 12 feet wide, and set about 17 inches from the floor, or at such height as to throw the greatest amount of sunshine on the floor. Sunshine is required both to keep the house dry and to destroy various forms of infection.

FROM MRS. BERRY IN "PROFITABLE POULTRY"

BUILDINGS AND NECESSARY EQUIPMENT.

You must provide good shelter—not necessarily costly or luxurious, but good warm houses of some kind. They can be made of straw, slough hay or sod, and many a thoroughbred chicken has been reared in quarters made of this material and brought their owners good profit. But it is not necessary to use cheap building material or temporary arrangements long, as poultry will soon pay for good substantial houses. We think the most economical kind of a house to build is one that is similar to several we have built on the Golden Rule Poultry Farm. We have examined lots of plans and have seen lots of different styles of houses and have also studied the matter quite a bit. And, from a practical standpoint. You can have them any length you wish, making them 16 feet wide, which we have found to be the best. We show an illustration of one of these houses on this page. These are the dimensions and kind of lumber to use: Height of front, 4 ft.; back, 6 ft.; highest point in center, 10 ft.; from highest point to where the roof joins the building, 3 ft.; studding and rafters every 2 ft. apart; sill, 2x6, laid flat on foundation. Spike studding to sill. Make window size to suit yourselves. Often they may be procured cheaply from some one taking out of their dwelling and putting in larger ones or replacing the old fashioned small lights with the modern larger ones. Yellow pine is cheaper for dimensions lumber; fir or white pine for siding.



POULTRY HOUSE USED BY EXPERIENCED POULTRY KEEPER

Some means of ventilating the building should be provided, preferably a ventilator that can be opened and closed at the will of the attendant. This can be located in the highest part of the roof and operated by means of cords or chains.

Perches and Nests

Perches should be not more than 2½ feet from the floor, all of the same height and set firmly but movable. A 2 by 3 scantling set edgewise with the upper corners rounded makes a satisfactory perch.

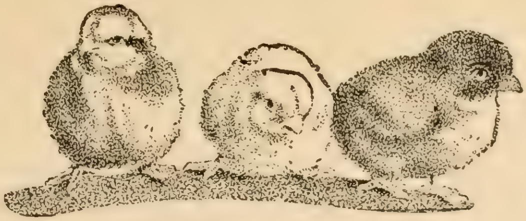
Underneath the perches should always be placed a smooth platform to catch the droppings. This is necessary for two reasons: The droppings are valuable for fertilizing purposes and ought not to be mixed with the litter on the floor; then, too, if the droppings are kept separate and in a convenient place to remove, it is much easier to keep the house clean than when they are allowed to become more or less scattered by the tramping and scratching of fowls.

In constructing nest boxes three points should be kept constantly in mind: (1) The box should be of such a nature that it can be readily cleaned and thoroughly disinfected; if it is removable so that it can be taken out of doors, so much the better; (2) it should be placed in the dark, or where there is only just sufficient light for the fowl to distinguish the nest and nest egg; (3) there should be plenty of room on two or three sides of the nest.

Nests for Leghorns or Hamburgs may be made of 6-inch fence boards nailed together so as to form boxes 8 by 10 inches and 6 inches deep. Where perches are arranged with the platform underneath to catch the droppings, as previously described, the

Raising Poultry—Natural and Artificial Hatching

FIRST
EXPERIENCE



BEGINNING
ACTIVITY

Young Fowls, Lately Arrived.

nests may be placed on the floor underneath this platform, the opening in front closed with a door which either lets down from the top or lifts from the bottom.

Selection of Breeds

A mistake is often made in selecting fowls of a breed that is not suited for the purposes for which they are to be kept. If egg production is the all-important point, it is a most serious mistake to select a breed of fowls that is not noted for this product. If, on the other hand, meat is the chief object, an expensive mistake will be made if any but the heavy-bodied fowls are chosen. The small, active, nervous egg-producing breeds can not compete with the larger phlegmatic Asiatics for meat production.

Then, too, if fowls are kept for both eggs and meat production, some breed of the middle class should be chosen. These, while they do not attain the great size of the Asiatics, are sufficiently large to be reared profitably to supply the table with meat and, at the same time, have the tendency for egg production developed sufficiently to produce a goodly number of eggs during the year. The Wyandottes and Plymouth Rocks are good illustrations of this class of fowls. While individuals of these breeds have made excellent records in egg production, the records of large numbers do not compare favorably with the egg production of the Mediterranean fowls. All of the so-called Mediterranean fowls have a great tendency toward egg production and require only the proper food and care to produce eggs in abundance.

Feeding of Fowls

In feeding for egg production a valuable lesson may be learned from nature. It will be observed that our domestic fowls that receive the least care and attention, or, in other words, whose conditions approach more nearly the natural conditions, lay most of their eggs in the springtime. It is our duty, then, as feeders, to note the conditions surrounding these fowls at that time. The weather is warm, they have an abundance of green food, more or less grain, many insects, and plenty of exercise and fresh air.

Then, if we are to feed for egg production, we will endeavor to make it springtime all the year round; not only to provide a warm place for our fowls and give them a proper proportion of green food, grain, and meat, but also to provide pure air and plenty of exercise.

Persons who keep only a small flock of hens, chiefly to provide eggs for the family, frequently make a mistake in feeding too much corn. It has been clearly proven by experiment that corn should not form a very large proportion of the grain ration for laying hens; it is too fattening, especially for hens kept in close confinement.

When comfortable quarters are provided for the fowls, the nutritive ratio of the food should be about 1 to 4; that is, one part of protein or muscle-producing compounds to four parts of carbohydrates or heat and fat producing compounds. Wheat is to be preferred to corn. Oats make an excellent food and, perhaps, come nearer the ideal than most any other single grain, particularly if the hull can be removed.

Ground or soft food should form part of the daily ration; also some kind of green food, especially clover in season; and when the fowls are closely confined, some meat food, like finely-cut fresh bone from the meat markets. But tainted bones should be rejected as unfit for poultry food.

If grain food is fed in any considerable quantities the fowls must also have access to some kind of grit, especially in the winter months when they have no regular access to gravel or other coarse gritty substances. Crushed oyster shells supply not only the grit, but also lime for the production of egg shells.

Incubation

The theory of incubation, or hatching, is based upon the fact that if a fertile egg is kept for a sufficient period of time under certain conditions of heat, moisture, and position, it will be transformed into a healthy fowl.

Natural incubation is dependent upon the instinct of the mother hen. Artificial incubation, or hatching by machinery, is a very old idea. Eggs were hatched by artificial means centuries ago. Machines were used successfully for this purpose by the Egyptians long before the Christian era, and some of these ancient hatching ovens that have been brought to light in recent years by explorers used lamps to provide the necessary heat.

The period of incubation varies with different species of fowls. The average period of natural incubation is a little over twenty or about twenty-one days for the egg of the common hen. This period may be somewhat shortened or prolonged by variations in the conduct of the mother hen, and possibly by changes in the weather.

Hatching Chickens by Hen.

Should the weather be moderate and the hen quiet and faithful, we need not be surprised if the eggs are all hatched by the close of the twentieth or even the nineteenth day. Again, if the weather be extreme or the hen restless and neglectful, we need not look for all the eggs to hatch until the close of the twenty-first or the beginning of the twenty-second day.

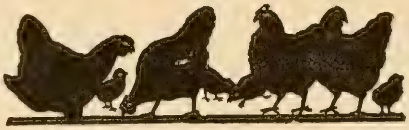
The same applies to eggs from other fowls, except, of course, that each has its own period of incubation, subject to the same variations.

Most poultry men agree upon the following number of days as the correct period of incubation for the fowls named: Common hen, 21 days; pheasant, 25; common duck, 28; peafowl, 28; guinea fowl, 25; goose, 30; partridge, 24; Barbary duck, 30; turkey, 28.

In spite of all notions to the contrary, the process of hatching can be suspended and held in check for several days without total destruction of the germ. This fact is of practical importance and, if remembered, may save the breeder a good hatch when, because of some accident or oversight, a lot of eggs has been left without outside heat

Hatching Chickens by Aid of the Hen—Old Style

MOTHER HENS



CHICKENS WITH NATURAL MOTHERS

and allowed to cool. Such eggs, if placed at a proper temperature, may hatch fairly well, provided this temperature is maintained a few days longer than the usual period of incubation.

A small incubator may therefore sometimes save a hatch when the nest has been deserted by an unfaithful hen.

Hatching Chickens by Hen

In raising poultry on a small scale, it is often unprofitable to operate incubators, and the old, time-honored way of hatching by hens must be used. This is the case where there is no suitable place to set up an incubator so as to preserve a regular temperature; or where it is desired to raise only a dozen or two dozen chicks at a time.

Sometimes the kitchen is the only place available for setting up a machine, and no poultry raiser can expect good results from an incubator set up in a kitchen of the ordinary kind. The changes in temperature are too great to permit of keeping the egg chamber of the incubator at anything like a uniform degree of heat, even with the aid of a regulator. So when the kitchen must be used, poor hatches may be expected from machines and it will be better to hatch by hen.

Considerable care must be exercised in the selection of the hens for this work. Some are unreliable and soon desert the nest; some are clumsy and break eggs; others are born setters and secure good results. As a rule Plymouth Rocks, Rhode Island Reds, Wyandottes, and Orpingtons make good setters, also other varieties of medium size, but unreliable hens are found in every breed and should be kept off the nests.

A good plan is to set several hens at one time, if the size of your plant permits. You can then turn over the chicks from three or four hatches, say, to two of the hens to brood. The other good setters can be reset and you will have a number of chicks of the same size and age, which is an advantage you will soon learn to appreciate.

The setters should be separated from the rest of the flock and should be kept perfectly clean and free from lice. The nest and all surroundings should also be kept clean during the entire period of incubation. Setting hens require grain food, charcoal, grit, and clean, fresh water, into which a little rusty iron may be dropped to furnish a tonic.

A good broody variety of hen should always be selected. Those mentioned above will, as a rule, show good results as setters. The non-setting varieties, like Leghorns, Minorcas, etc., sometimes show signs of being "clucky," but cannot be depended upon in incubation. Heavy, feather-legged varieties, like the Cochins and Brahmas, should not be used on the nests. They are too clumsy for incubation purposes and are apt to break eggs or trample chicks.

Selection of Eggs

Eggs selected for incubation must be fertile, or hatchable. It is well understood that an egg receives its fertility from the male bird, but the condition of the female at the time of laying has much to do with the hatching quality of the egg. The laying hen must be healthy and properly fed or she cannot produce an egg capable of carrying the germ to a successful hatch. Hens kept in unhealthful quarters or too closely confined are not likely to lay eggs that will produce strong, healthy chickens, if indeed they produce any at all. Hens suffering from disease or infested with vermin may lay, but eggs from such hens will rarely hatch, and even if they do hatch, the chicks will not be likely to mature into vigorous or growthy fowls.

Hence in order to secure hatchable eggs the hens must be healthy, have plenty of outdoor exercise, and be fed upon an assorted or balanced ration. An exclusive corn diet will not promote fertility. Fowls in confinement must have a mixed diet and plenty of grit and bone, with meats, clovers, or other substances in the line of nitrogenous food. They must be kept free from lice and must have plenty of litter, straw, hay, chaff, or leaves in which to scratch. Fowls having free runs need less attention to diet and are more apt to lay fertile eggs than fowls closely imprisoned.

The number of hens to the male in the breeding pen is a subject of much dispute. With most breeds, however, the largest percentage of fertile eggs is secured by the mating of from ten to twelve hens to one good, vigorous, young male bird.

Even under the most favorable circumstances the eggs will vary and give room for selection. Let the selection be influenced by the average product of the hen or breed. An even, uniform lot, assorted as to size, color and shape, will be apt to give the best results.

Freshness is a prime necessity. While an egg six weeks old may hatch, the chick will be weak and hard to raise. Fresh eggs hatch earlier and the chicks from them are stronger than those from older eggs. As a rule eggs more than 12 days old should not be placed under a hen or in an incubator.

Eggs for hatching should be clean; if not clean they should be washed in tepid water and carefully dried with a clean, soft cloth. It is good practice to stand the eggs in a cool, quiet place, each with the large end uppermost, for a period of twelve hours before placing for incubation. This balances the yolk in the center and locates the air cell.

During storage, eggs for incubation should be partly turned every day. A little attention to these simple directions will make quite a difference in the possibilities of fertile eggs and will greatly augment the percentage of chicks.

It is poor practice to set eggs of more than one kind or breed together, for eggs of different kinds vary in thickness and strength of shell and in the amount of heat and moisture required.

The Nesting Box

A suitable nesting box must be prepared for the setting hen. This should be roomy, so that the hen may be able to change her position on the eggs without breaking any of them; and also deep enough to retain the nesting material. The box should be whitewashed or treated with a disinfectant before use. It is important to keep out lice, mites, etc.

The nest itself may be made of a few inches of damp soil or sod cut three inches thick, placed in the bottom of the box and covered with a good thick layer of sweet hay or clean straw.

Now place the nest box in a quiet or secluded place, away from the rest of the flock, so that the hen will not be disturbed in any way. Probably the best plan is to have a small building set apart for the purpose and capable of accommodating several setting hens at the same time. This system possesses many advantages, as it is very advisable to have several broods of the same size and age.

A medium-sized hen can cover from nine to fifteen hen eggs, six or seven turkey eggs, nine to eleven duck eggs, or four to five goose eggs. Bantams can cover on the average eight or nine of their own eggs.

Nest boxes should be made so as to open or close readily. Both the box and nest material, as well as the hen, should be thoroughly sprinkled with insect powder before setting the hen and at intervals of eight days during the period of incubation. The hen should be kept shut up as a rule, and allowed to leave the nest only for feed, water, and the dust bath. The latter should be provided within easy reach of every broody hen. The best form of dust bath is a small box kept well filled with loose fine earth. There is no better way to combat the attacks of lice; in fact, during the winter months the dust box is a prime necessity in every poultry plant.

When the hen leaves the nest for her daily feed, the eggs should be carefully inspected, and broken or soiled ones removed, as foul eggs will seriously affect the hatch.

The setting hen must be fed on clean hard grain and kept supplied with fresh water in a clean vessel. The work of the most faithful setter can be spoiled by neglect or carelessness on the part of the operator. Grit and charcoal, as well as the feed and water, should be placed near to the nest, so that the "cluck" may find them promptly on leaving the nest.

It is a good idea to test out a clucky hen on dummy eggs before setting her upon the selected eggs. If she returns to the nest and sets closely after being taken off a few times, it will be safe to put in the good eggs.

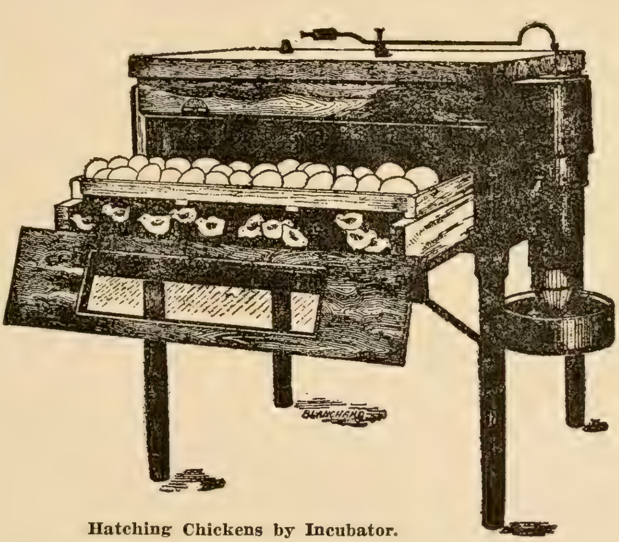
Reliable setters should be marked so that they may be recognized when they again become "clucky." It pays to keep good setters, sometimes for several years. As a rule, old hens make better setters than pullets. Wild or excitable hens break eggs and make poor setters.

Artificial Incubation

The incubator is an important factor in poultry raising. It may be described as a simple and practical machine, easily operated by any member of the household. But there are so many different kinds or makes of this useful machine that it is impossible to do more than describe the general features common to all. At the present time they are all constructed upon similar principles and along the same lines, and nearly all of them derive their heat from lamps that burn kerosene. In some of the hot-air machines the heat is applied through the medium of heated air, while in others —the hot-water machines—the eggs are supplied with heat from pipes filled with hot water.

In the hot-air incubator a common kerosene lamp is used to furnish the current of hot air which passes over and around the egg chamber and which keeps the eggs at the proper temperature for hatching. Like the hot-water machine, it is supplied with a regulator, which, acting upon a valve or damper, regulates the admission of heat to the egg chamber.

In the hot-water incubator, water is heated and forced through metal tubes over the eggs, thus distributing heat throughout the egg chamber. It is supplied with a regulator which works upon the same principle as does that of the hot-air machine.



Hatching Chickens by Incubator.

The important parts of an incubator are the lamp, including oil reservoir, burner, wick, and chimney; the regulator, egg chamber, with extra tray for turning eggs, nursery tray, and thermometer. Good material, good workmanship and efficient arrangement of parts are all desirable features. Two dead-air spaces, good strong legs, plenty of space in the egg chamber, good windows properly placed, a good thermometer located where it can be read without disturbing the machine—these are all necessary and among the strong points of a good incubator. This machine operates upon living products and it must bring forth living creatures, else it is useless.

Novices may be cautioned against buying an incubator of large size for experimental or farm work. The so-called 100-egg size is large enough for the beginner. One tray and one egg chamber are enough.

The Lamp and Burner

All poultry raisers should beware of buying a poor lamp. Manufacturers, as well as purchasers, should remember that while the lamp is half the incubator the burner is half the lamp.

Many kinds of lamps have been tried and many patents have been granted upon lamps and parts thereof for incubator use, but the tendency is to discard all that are in any manner complicated and to return to the plain, old-fashioned burner and chimney. The oil reservoir should be made of metal, either copper or galvanized iron, as those made of glass are too liable to break and are too heavy to handle conveniently. This reservoir should have a flat bottom and a flat top. It should have a capacity exceeding the twenty-four hours' demand of the machine. This is very important, for sometimes it happens that the operator is detained for some reason and cannot reach his machine at the proper hour, and in such a case the lamp must contain oil enough for a few hours' overtime. This reservoir should be plain and smooth outside and inside. It should be well made and well finished.

The burner is the most important part of an incubator lamp. It should be made with the greatest regard to stability and accuracy. The flat wick tube is the most common. The burner should be made of good material, such as brass or copper, and never of poor material, such as iron or plated tin. If the wheel or lever turns hard, or does not turn to the thirty-second of an inch, it is useless and will cause trouble.

The Regulator

Many methods have been tried for automatically regulating the temperature of the egg chamber. So far all of them depend upon the principle of contraction and expansion. The demand is for some simple device that will allow the temperature to rise so high and no higher, and that will maintain the temperature at that degree regardless of the weather or external influences. Most regulators act upon a damper over the top of the lamp, and, by opening or closing the same, regulate the amount of heat that passes into the incubator.

Incubators a Necessity

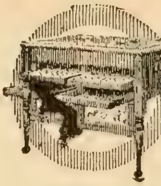
The modern improvement in incubators has made the rearing of fowls solely for egg production quite out of the question unless these machines are used. No experienced poultry man at the present time will undertake to rear fowls in large numbers for the production of eggs and depend on the hens that lay the eggs for incubation. The so-called Mediterranean fowls cannot be depended upon for natural incubation. Artificial incubation must be resorted to if these fowls are to be reared in considerable numbers.

Choice of a Machine

There are many kinds of excellent incubators on the market. As with many kinds of farm machinery, it is impossible to say that one particular kind is better than all others. Then, too, an incubator that would give very satisfactory results with one individual might prove to be quite inferior in the hands of another person. What is best for one is not necessarily best for another.

It is advisable, before investing extensively in any make of incubator, thoroughly to understand the machine. If good results are obtained, then additional machines of the same kind may be purchased. Failures are recorded simply because the individual fails thoroughly to understand the machine he is trying to operate, or, in other words, fails to learn how to operate that particular machine to the best advantage.

A successful poultry man must necessarily pay close attention to petty details. Not only is this necessary in caring for little chickens and mature fowls, but also in the care and management of incubators and brooders. The whole business is one of details.



Incubator.

Chicken.

Fowls.

Points of a Good Machine

While incubators may vary considerably one from another, yet there are certain points to which all should conform. Some of these points are summed up in the following:

1. They should be well made of well-seasoned lumber. The effort of manufacturers to meet a popular demand for cheap machines has heretofore placed on the market incubators that are not only cheaply made, but made of cheap and not thoroughly seasoned material.

2. The incubator should be easy of operation. All its adjustments should be easily made and so arranged that the more delicate machinery is in plain view of the operator.

3. The machine should be automatic in operation. When supplied with the necessary heat, it should control perfectly within certain limits the temperature of the egg chamber.

This result is accomplished in various ways. The regulating force, whatever it may be, should be placed within the egg chamber, so that the regulator may vary as the temperature in the egg chamber varies, irrespective of the changes of temperature of the room in which the incubator is placed.

4. The regulator must be sensitive. The change of temperature which is necessary for the complete working of the regulator ought not to be more than 1 degree; that is, 1 degree above or below the desired temperature. It is better if the range of temperature can be reduced to one-half of 1 degree, thus making a total variation of 1 degree instead of 2 degrees.

5. In addition to the foregoing requisites, a convenient appliance for turning the eggs, positive in its action, should accompany each incubator. This may be an extra tray that is to be placed bottom side up over the tray of eggs and held firmly in this position while both trays are turned, thus completely transferring the eggs from one tray to another without jar. The different machines have very different appliances for accomplishing this result.

Excellent results are obtained by the use of many machines now on the market when the operator of these various machines is thoroughly interested. Poultry men have, for a number of years, hatched in incubators over 80 per cent. of all eggs put in the machine. It must not be inferred, however, that this is an easy thing to do. A record of this kind is attained only by close observation and good judgment, not only in running the machine, but also in the breeding and care of the fowls to produce fertile eggs.

Artificial Brooding

If the poultry raiser resorts to artificial incubation, it will be necessary to provide an artificial brooder of some kind. This may be simple and quite inexpensive, or complex and costly.

It is not necessary to expend very much money in the construction of an efficient brooder. It is necessary, however, to see that the brooder is capable of doing certain things. Some of these requisites are as follows:

What the Brooder Must Be

1. The brooder must be warm. The little chickens require a temperature of 90 degrees to 100 degrees the first few days, and at all times they should find it so warm in the brooder that they are not inclined to huddle together to keep warm.

2. If the brooder is automatic, then the temperature may be kept quite even throughout the whole floor space. If, on the other hand, the brooder is heated from one side or from the top and is not automatic, it will be best to construct it so that certain parts of the machine will be very warm; in fact, a little warmer than is necessary for the chickens, and some other part somewhat too cool. It does not take them long to learn just where the most comfortable position is.

3. The chicks may be trusted to select the proper temperature if the brooder is of sufficient size so that it is never crowded.

A brooder constructed on this plan will require less attention than almost any other. It may undergo a considerable variation in temperature without overheating or chilling the chickens.

4. The brooder should be easily cleaned and so constructed that all of the floor space can readily be seen. Inconvenient corners are objectionable in brooders; in fact, any corner is objectionable; but if brooders are to be constructed cheaply it is almost necessary to make corners. If constructed of wood, circular ones are somewhat more expensive than square or rectangular ones.

5. The floor must not only be kept clean, but dry. Top or side heat is to be preferred to bottom heat, but there must be sufficient bottom heat to keep the floor dry.

6. As the chickens get a few days old, plenty of exercise must be provided. One objection to many brooders offered for sale has been that the chickens are kept too closely confined and not allowed sufficient exercise. It is a matter of surprise to many to learn how much exercise the smallest chicks require. With the young chicken, as with the athlete, strength is acquired by exercise, and above all other conditions of growth strength is the one thing necessary to the young chicken.

At the very first appearance of crowding in a brooder, as the chicks increase in size, the flock should be divided and some of the little fellows put into another brooder. Overcrowding is most dangerous to the brood, and the novice will do well to guard against it with the greatest care, remembering that it is easier to hatch the chicks than to rear them.

The brooder should be cleaned, set up and heated a few hours before the chicks are released from the incubator nursery. The brooder should be regulated as to heat so that it will show a temperature of about 98 degrees when the chicks are put in. Then it should be gradually lowered at the rate of 1 degree a week, according to the weather and the experience and judgment of the poultry man.

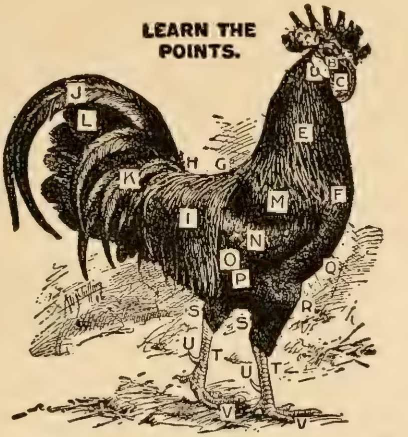
Feeding the Chicks

The chicks should not be fed until they are thoroughly dried and have been out of the incubator at least twenty-four hours. The first feed should be fine sharp grit or sand, upon which is sprinkled a very little hard-boiled egg chopped fine. After this they should be fed every three hours a little broken grain or, better yet, some of the excellent prepared dry chick food upon the market. Clean, fresh water should be supplied from the start. Wet, sloppy food should be avoided. If none of the manufactured chick foods are at hand, a substitute can be made by cracking a mixture of wheat, corn, and egg shells. Any good poultry journal will give valuable hints upon the subject of raising chickens in brooders.

Disease and Lice in Fowls

Disease and lice are the great obstacles to be overcome in poultry raising. The houses may be kept free from lice by a liberal use of kerosene emulsion and by whitewashing. Whitewash serves a double purpose, that of ridding the house of lice and making the interior much lighter. A small window, with the interior of the house whitewashed, will make the building as light as a much larger window without the whitewash. If the poultry houses are kept free from lice, the fowls can usually be depended upon to keep themselves free by a liberal use of the dust bath. If, however, body lice are found, they may be successfully treated by dusting insect powder under the feathers in the evening and allowing the fowls to remain undisturbed on the perches after the treatment.

Technical Terms Relating to Domestic Fowls



(A)—Comb; (B)—Face; (C)—Wattles; (D)—Ear Lobes; (E)—Hackle; (F)—Breast; (G)—Back; (H)—Saddle; (I)—Saddle Feathers; (J)—Sickles; (K)—Tail Coverts; (L)—Main Tail Feathers; (M)—Wing Bow; (N)—Wing Bar; (O)—Wing Bay; (P)—Wing Butts; (Q)—Breast Bone; (R)—Thighs; (S)—Hocks; (T)—Shanks; (U)—Spurs; (V)—Toes.

GLOSSARY OF TECHNICAL TERMS

Barred, Barring. — Alternate stripes of light and dark across a feather.

Beard.—A bunch of feathers under the throat of some breeds, as Houdans or Polish.

Breast.—In a live fowl, the front of the body above the point of the breastbone, up to the throat. In a table fowl (dead) the breast is below this, and would be called the under part of the body in the live bird.

Breed.—Any variety of fowl in all its distinct characteristics. The breed includes all the varieties of color which are found in it.

Brood.—The family of chickens under one hen or brooder.

Broody.—Desiring to sit or incubate.

Cape.—The feathers under the base of the back hackles between the shoulders.

Carriage.—The bearing, attitude, or "style" of a bird.

Caruncles. — Fleshy protuberances, as on the neck of a turkey-cock.

Cockerel.—A young cock under one year old.

Comb.—The red protuberance on the top of a fowl's head.

Condition.—The state of the fowl as regards health and beauty of plumage—the latter especially.

Crest.—A crown or tuft of feathers on the head. The same as Top-knot.

Crop.—The bag or receptacle in which food is stored before digestion. Can be easily felt in any fowl after feeding.

Cushion.—The mass of feathers over the tail-end of a hen's back, covering the tail; chiefly developed in Cochins.

Dubbing.—Cutting off the comb, wattles, etc., so as to leave the head smooth and clean.

Ear-lobes.—The folds of skin hanging below the ears. They vary in color in different breeds, between red, white, blue, and cream, and also greatly in size.

Face.—The bare skin around the eye.

Furnished.—Assumed the full characters. When a cockerel has obtained his full tail, hackles, etc., as if adult, he is said to be "furnished."

Gills.—The term is often applied to the wattles, and sometimes more indefinitely to the whole region of the throat.

Hackles.—The peculiar narrow feathers on the neck of fowls, also found in the saddle of the cock. In the latter case they are called "saddle" hackles or feathers; hackles alone always referring to the neck-feathers.

Hen-feathered, or Henny.—Resembling a hen in the absence of sickles or hackle-feathers, and in plumage generally.

Laced, Lacing.—A stripe of edging all round a feather, of some color different from its ground color, as in Sebrights and Wyandottes.

Leg-feathers.—The feathers projecting from the outer side of the shanks in some breeds, as Cochins.

Mossy.—Confused or indistinct in marking.

Pea-comb.—A triple comb, resembling three small combs in one, the middle being the highest.

Pencilling.—Small markings or stripes over a feather. These may run either straight across, as in Hamburgs, or in a crescentic form, as in Partridge Cochins.

Poult.—A young turkey.

Rose-comb.—A broad solid comb, the top of which is nearly level and covered with small points. It becomes broader as it recedes from the front, ending with a spike or "leader" at the back.

Saddle.—The posterior part of the back, reaching to the tail, in a cock, answering to the cushion in a hen.

Shaft.—The stem or quill of a feather.

Sickles.—The top curved feathers of a cock's tail. Properly only applied to the top pair, but sometimes used for one or two pairs below which can hardly be called tail-coverts.

Spangling.—The marking produced by each feather having one large spot or splash of some color different from the ground-color. When applied to a laced breed, as in Polish, the word is explained by the much broader lacing at the tip of each feather.

Spur. — The sharp offensive weapon near the heel of a cock or hen.

Squirrel-tailed.—The tail projecting in front of a perpendicular line, over the back.

Stag.—Another term for a young cock, chiefly used by Game breeders.

Station.—Another term for symmetry, but rather markedly in connection with height or reach.

Strain.—A race of fowls which, having been carefully bred by one breeder or his successors, for years, has acquired an individual character of its own which can be more or less relied upon.

Surface-color.—That portion of the feathers exposed to view.

Symmetry.—Perfection of proportion.

Tail-coverts.—The soft, glossy, curved feathers at the sides of the bottom of the tail. Usually the same color as the sickles.

Tail-feathers.—The straight and stiff feathers of the tail only. The top pair are sometimes slightly curved, but they are always nearly if not quite straight, and are contained inside the sickles and tail-coverts.

Thighs.—The joint above the shanks; the first joint clothed all over with feathers. The same as the drumstick in dressed fowls.

Top-knot.—Same as Crest.

Tri-colored.—A term often applied to cockerels which should be of one uniform color, when their hackles and saddles and tails are much darker, and the wing-bow darker still. Chiefly in buff varieties.

Trio.—A cock or cockerel, and two hens or pullets.

Under-color.—That portion of the feathers under the surface, only seen when the plumage is opened or separated. That of the fluff of the feather. It often differs greatly from the surface-color, and is of great importance in breeding.

Variety.—Some definite division of a breed known by its color or marking. Thus the breed includes all the varieties.

Vulture-hock.—Stiff projecting quill-feathers at the hock-joint. The feathers must be both stiff and projecting to be thus truly called and condemned.

Wattles.—The red depending structures at each side of the base of the beak. Chiefly developed in the male sex.

Web.—This term is indefinite, expressing a flat and thin structure. The web of a feather is the flat or plume portion; the web of the foot, the flat skin between the toes; of the wing, the triangular skin seen when the member is extended.

Web-bar.—Any line of dark color across the middle of the wing, caused by the color or marking of the feathers known as the lower wing-coverts.

SEVENTY DIFFERENT BREEDS OF DOMESTIC FOWLS

Dark Brahma,

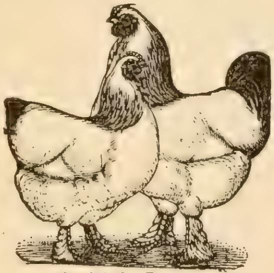
The Dark Brahma is like light Brahma in form, but opposite in color.

Black Spanish

The Black Spanish lays six months from time of hatching five or six eggs per week.

La Fleche,

The La Fleche, French fowl, black plumage, a good layer in winter



The Light Brahma

The Light Brahma has white plumage on the surface with a bluish-gray beneath.

Andalusians

The Blue Andalusian is an English breed of fowls, dating back 50 years, when they had been bred quite extensively in Andalusia, Spain, from whence they derive the name. They belong to the non-setting class. As layers they have no superiors, laying the whole year round, both summer and winter. In color, the eggs are white and of medium size. They are very hardy, chicks growing very fast, pullets often laying at the age of four months; color is slaty blue, have red wattles, face and comb, and white earlobes; are fine in appearance, gay, stylish, commanding the admiration of all who see them. They are about the same size as the Minorca. However, they are not without a fault; they do not breed as true to color as most other varieties do, and throw off a larger per cent. of off-colored chicks than any other variety. However, their other good qualities make up for this weak point.

Anconas

Mottled Anconas are considered by many to be the most beautiful of all the Mediterranean varieties. They are similar to the Leghorns in shape and size, have a yellow skin and the plumage is black, evenly mottled all over with white. They are wonderful layers of large white eggs and are fast coming into general favor, since they combine great beauty with the best practical qualities.

Bantams

The Buff Cochin, or Pekin Bantam.—In color they are a golden buff, same as the Buff Cochin, except the cock is usually dark, almost chestnut. They are very quiet, tame and docile, making the finest pets. In size they are just a little larger than the Golden Sebright Bantam, being a little broader and heavier set. All who see them admire them for their exquisite unique appearance and beauty. They are quite good layers of rather small eggs, light in color, are good setters and good mothers. Chicks are easily raised, are hardy both as fowls and chicks. They bear confinement well, thrive just as well in small enclosures as running at large, are fine pets to have on a nice green lawn, where they command the admiration of all who see them.

Golden Sebright Bantams are one of the most attractive breeds of all Bantams. No breed among the beautiful pigmies excel the Sebrights in beauty of penciling and none are prettier pets. In color they are rich, golden yellow, laced with black markings, being very distinct and clear. They have proven very hardy both as chicks and fowls, breeding very true to color. They are both useful and a true fancy fowl, excellent layers of small eggs, good setters and mothers. They are quite small, standard weight of cock, 26 ounces; hens, 22 ounces. They are stylish, active, and no lover of the beautiful can afford to be without them, as they are the attraction and admiration of all who see them.

Brahmas

The Brahmas are the heaviest of our domestic fowls. Though classed as an Asiatic breed, and descended from Oriental parentage, this breed in its present form is really an American production. Standard weights: cock, 12 pounds; cockerel, 10 pounds; hen, 9½ pounds; pullet, 8 pounds. These weights are often exceeded. Though large, the birds are stately, with fine carriage. "The lordly Brahma" well expresses it.

Light Brahmas.—Almost without exception the Light Brahma is a favorite with poultrymen, even with those who do not breed them. They are often referred to as "the aristocrats of the poultry yard." In size they are the largest of our domestic fowls. This, combined with their proud and stately carriage, makes a flock of them attractive, no matter where they are seen. They have pea combs and heavily feathered legs and toes. The color is white with black tail, black and white hackle, wing flights and tail coverts. The hens lay brown eggs. Light Brahmas are not remarkably early in maturing; but they are very hardy, and in the markets of this country this variety is a great favorite as "soft roasters," and as mature fowls they very often are chosen for the family dinner in preference to the more costly but not more palatable turkey. Light Brahma hens have made high records as layers, under good care. Their eggs are very large, weighing from 28 to 32 ounces to the dozen, and are in great demand in some of our markets. The Light Brahma has a firm hold on the affections of our people, and the poultry breeder who has good ones need never lack for buyers, who will pay good prices.

The Dark Brahmas are one of the most prominent members of the great Asiatic family. They are very beautiful, especially the female. The plumage of the female is a steel gray, with delicate pencilings, except on hackle, where the pencilings are quite prominent, making them a very desirable fowl for the city and town, as the dust and soot will not soil their plumage. The plumage of the cock, although quite different from that of the hen, commands admiration of those who have a taste for the beautiful in nature. No breed is more hardy from the time it picks the shell until ripe in old age than the Dark Brahma. As egg producers they are second to none of the Asiatics. With their great vigor of constitution when young, they feather rapidly and are ready early for the market as spring chickens and broilers. In weight they are about the same as the Light Brahma, cocks weighing at maturity, when in good condition, from 10 to 12 pounds, and hens, when in good condition, 8 to 10 pounds.

Seventy Different Breeds of Domestic Fowls

Buckeyes

The Buckeye.—Originated by a woman in Ohio, from which state it takes its name. Mrs. Frank Metcalf produced this breed from a cross of Asiatics, Cornish Indian, and some of the game fowls. Primarily the Buckeyes were bred for egg production and market poultry, but perfect specimens are beautiful birds.

Buttercups

This new variety has come to the front rapidly in the last three years. They were originally brought over from Sicily and have won a name for their persistent laying. They are just a little larger than Leghorns and are very gentle and tame. They stand confinement well, and the hens are regular egg machines. Their comb is different from any other variety, being cup shaped, and their plumage is very striking. The males are a rich brilliant red top color and the hens are beautifully marked throughout.

Campines

Silver Campines have spread over the country like wildfire and are sure to remain one of the most popular of the smaller varieties. They compare in size with the Leghorns and their supporters claim they will outlay the Leghorns every time. Their color is very striking, being a black and white, very narrowly barred or penciled and they are very active and great foragers.

Cochins

The Buff Cochin of today is the most popular of the Cochin family. It is descended from the Shanghai fowl of sixty years ago, which started the greatest "boom" for improved poultry this country has ever experienced. From the ungainly, loose-jointed, awkward Shanghai fowls of sixty years ago, American breeders have produced the compact, full-feathered, thick-meated Buff Cochin of today, which is distinctively the most perfect representative member of the Asiatic class. Cochins are very hardy, enduring severe weather easily. The hens are fairly good layers, the best of mothers, and very domestic. As a market fowl, the Buff Cochin is very profitable, putting on weight with a smaller quantity of feed than almost any other variety. The poultry breeder who has a flock of good Buff Cochins has something of which he may well be proud.

Partridge Cochins are very gentle and stand confinement better than other varieties. They are very large and fine winter layers, and their color is as handsome as any variety when stock has been carefully selected from the famous strains.

Crevecoeurs

This is a breed but little known. Black in plumage with a crest on the head so full as to almost obscure the eyes.

Dominiques

The Dominiques resemble the Plymouth Rocks. They bear confinement well and do not appear to deteriorate from inbreeding to the extent observed in some of the other breeds. They mature early, are hardy, make good mothers, and are valuable as a farm variety. Weight: Cock, 8½ pounds; hen, 6½ pounds.

Dorkings

Colored Dorking.—Same shape and general type of body, but much darker in color, and a little heavier in weight than the Silver-Grays. Standard weights: Cock, 9 pounds; cockerel, 8 pounds; hen, 7 pounds; pullet, 6 pounds.

Silver Gray Dorking.—The Dorking is probably the oldest breed of domestic fowls. It belongs to the English class, and in England has been brought to a high state of perfection.

Ducks

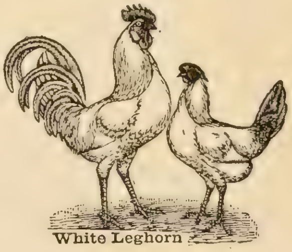
Where large numbers of ducks are kept for supplying eggs for incubators the Pekin variety is usually preferred and can be kept without ponds if an abundance of drinking water is provided. When laying they should be fed twice a day as much as they will eat.

Faverolle

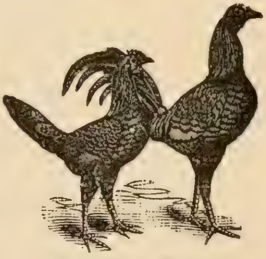
A general purpose breed of increasing popularity. Densely whiskered; five toes. The varieties: English and French Salmon, English Ermine, French Black and Blue.

The Cochin Bantam, from Pekin, China.

The Red Pile Game lays on the average, 170 eggs a year



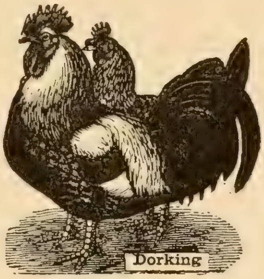
The White Leghorn lays four and five months after hatching 200 eggs a year.



The Game Bantam.

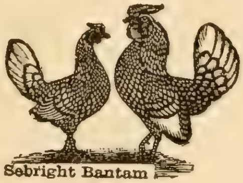
The Game Bantam, a profitable variety for raising on farms.

Seventy Different Breeds of Domestic Fowls



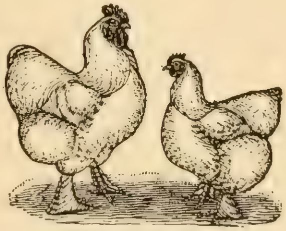
Dorking

The Dorking, admired for beauty, and as a table bird.



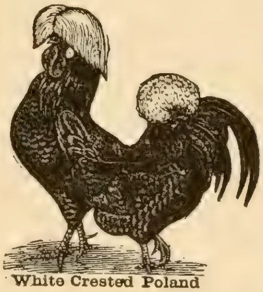
Sebright Bantam

The Sebright Bantam has proudest carriage to be imagined in a bird so small.



White Cochin Fowl.

The White Cochin, a large fowl, esteemed for prolific production of eggs.



White Crested Poland

The White Crested Poland has rich, black plumage with pure white crest.

Frizzles

The Frizzle fowl is valued largely because of its oddity in feathers, which have a tendency to turn backwards and upwards.

Games

The Black Sumatra Game is not as well known in the poultry circle as many other varieties of the Game. They do not resemble the Game family to a very great extent, being more heavily feathered than most Games. In color they are a solid black throughout, shading being a lustrous green, which makes them very rich and handsome in color. They are very good layers of medium sized eggs, ranging in color from white to a darker shade. They make exceptionally good mothers, and will take care of a brood of chicks as well as one might wish. Chicks are hardy and grow fast. They are a splendid table fowl, as all Games are. Cocks weigh, when in good flesh, from 6 to 8 pounds, and hens from 5 to 7 pounds.

Brown Red Games are second to none in this country, fine specimens with great vitality and hardiness of constitution. To say they are good layers will not do them justice, as they have proven themselves in laying almost equal to any fowl, and are surpassed by few. They are very handsome, the color of male, neck, back and saddle lemon, with narrow stripe of black in the middle of the feathers; breast, ground color black, laced some with lemon; wing bow lemon, wing coverts glossy black, primaries and secondaries black, and tail glossy black. The female, neck lemon with a narrow stripe of black in middle feathers; breast, ground color black, evenly-laced with lemon, otherwise the plumage is black throughout. They bear confinement remarkably well, are hardy both as chicks and fowls. Chicks grow very fast, and mature quite early. The hens make splendid mothers, taking the best of care of their young. Cocks weigh from 6 to 8 pounds; hens from 5 to 7 pounds. They are a fine table fowl, and dress very nice and presentable.

Cornish Indian Games have gained public favor very rapidly. It is a breed for general utility, having the laying qualities of a market fowl, i. e., compactness, yellow legs, heavy weight, the flesh put on at the right place, from which there is but little waste in dressing, and being of quick-growing habits they produce a fine broiler in a short time because they have short feathers, the nutriment required to put feathers on other breeds going to flesh, which is more juicy and tender in this breed than in a young turkey. The Indian Game hens are good setters and mothers, and the chicks are very hardy. In color the fowls are quite pretty; the bright brown shafts and the glossy green lacing making a beautiful contrast. Here we have a fowl for the market poultryman, the farmer, the broiler-raiser, the egg producer and the fancier. The general appearance is that of a powerful bird. Body very broad, thick and compact; flesh firm and solid. In the male the plumage of the breast and underbody is a green glossy black, neck-hackle same color, with brown crimson shafts to feathers; back and saddle a mixture of green glossy black and brown crimson. Wings chestnut brown, with metallic green glossy black wing bar. In the hen the ground color is chestnut brown, with beautiful lacings of metallic green glossy black. The skin in both sexes is a very rich, bright, deep orange yellow, and their legs are yellow or a dusky yellow, which makes them very desirable for market. Face, wattles and comb are a rich red.

The Pit Games are in various colors, such as Black Red, Brown Red, Blue Red, White, and Black, and the stock should be thoroughly tested and proven absolutely dead game. Birds should be sure cutters, aggressive, and warranted never to quit.

The Red Pyle Game is in general make-up and quality the same as the Brown Red or B. B. R. Game, only differing in color. They are very courageous and hardy, and to most people not lacking in beauty. Color of cock, hackle and saddle, orange, light red or chestnut; breast, shaft and margin of feathers chestnut red, wings white and red, tail white, body white. The hens are mostly white to a creamy white, running darker on breast and wings.

Geese

Geese require almost no care, but should have dry quarters. They prefer grass on the pasture and on this they will thrive. In winter one good meal a day, as much as they will eat, of cooked potatoes or turnips with cut clover, ground oats, and ground meat added will be sufficient. The same food is excellent for goslings, which should be fed three times a day.

Guineas

The Guinea Fowls are usually recorded with the chickens. They are good layers, poor mothers, being prone to wander and steal their nest. This fowl should not be kept in towns, as their discordant voice in the early morning makes them unpleasant for neighbors.

Seventy Different Breeds of Domestic Fowls

Hamburgs

The Hamburgs are small, active, and great fliers; for this latter reason extra precaution must be taken and they really require a wide range to do well. They are among the most persistent layers and when properly kept even equal the Leghorns. The chicks are rather delicate and the adults demand more attention than any of the other egg-producing breeds to be equally profitable.

The Silver Spangled Hamburgs are one of the most beautiful varieties that can be found on the poultry list. No one can pass a flock of them without a glance of admiration. For beauty they are unsurpassed and too much could not be said of this beautiful breed. As egg producers they stand in the front rank, laying the year around. In color eggs are white, and medium in size. Chicks grow quite fast and mature very early. Pullets often begin laying at four months old. They are very small feeders, and bear confinement in small enclosures remarkably well. For laying qualities and beauty, they stand on their own merits and cannot be over-estimated. Hens will weigh from 3 to 4½ pounds, cocks from 4 to 5½ pounds.

Houdans

Houdans are a French fowl. It is not known just how long they have been in existence, nor is it known who the originator was. However, they are a very old breed and are deserving of considerable credit. The Houdan hen is a good layer, her eggs are of good size and in color are white. She belongs to the non-setting varieties. After they become several years old some of them will get a little broody but are easily broken. The Houdans have five toes, a crest and beard, are shaped much like a Dorking, hence are considered valuable as a fine table fowl, meat tender, juicy and fine flavored. Color of legs of the young is pink; of the old a light gray with sometimes pink on the side. The chicks are decidedly handsome and grow very fast, weighing 4 or 5 pounds at the age of 4 months, but, of course, the growth depends largely on the food and care they receive. They are remarkably hardy and thrive well under ordinary care. Standard weight for cocks is 7 pounds, hens 6 pounds. They are not a high flyer, will not roam far away, are very tame and docile; one can make fine pets of them and they are well adapted for small runs.

Javas

The Javas (Black, Mottled, and White) are an old American class of fowls that for no good reason have lost popularity. They are excellent as egg producers and for market purposes, maturing early and having the yellow shanks and toes, the absence of which constitutes an objection to some of the dark-colored breeds. The hens make good setters and mothers, and the Javas bear confinement well. The Black variety is most commonly kept. Weight: Cock, 9½ pounds; hen, 7½ pounds.

The Black Java is an old variety fowl. It is claimed that the Black Javas were bred from the Plymouth Rock. Now, if the Black Java have their origin from the Plymouth Rock, they must of necessity occupy a front rank as an American breed. They will withstand the severest weather in our northern climates. Also are prolific, and thrive just as well in our warmer southern climes. Chicks thrive well from the time they come out of the shell till old age, maturing very early. They are not as apt to take disease as some other varieties, being as near proof against disease as any fowl. They are about the best layers for a large fowl, laying a dark-colored egg, but not strictly one color; some are a little lighter in color than others. The Java hens make excellent mothers, taking the best care of their young. They are good setters, but are not as persistently broody as some of the large varieties of fowls. In color the Black Java is what the name implies, black throughout. The cocks are of a lustrous greenish black, about the same as the Langshans. Cocks will weigh from 8 to 10 pounds; hens from 7 to 9 pounds (in good flesh). They possess rare market qualities, having the best possible make-up for a valuable market fowl.

Lakenvelder

The Lakenvelder resembles the Leghorn in form, size, activity and egg laying quality. Color white with black head, hackles, rump, and tail.

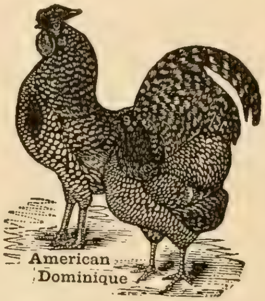
Langshans

Black Langshan.—Asiatics, but lighter weight, rangier and longer legged than the other members of that class. Standard weights: Cock, 9½ pounds; cockerel, 8 pounds; hen, 7½ pounds; pullet, 6½ pounds. Skin white with pinkish-white flesh. The tail feathers of the male attain great length. Legs and outer toes feathered. Comb single. Color black and glossy with a greenish sheen on back. The White variety has the same weight and general characteristics as the Black, but the plumage is pure white.

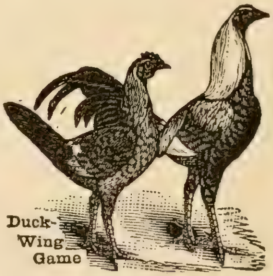
Buff Langshans.—A very fine breed; have been largely imported from England formerly. We have found them among the best breeds for laying and general purposes. The demand for them in this country has been all that could be desired.

The White Langshans have given most excellent satisfaction, and are more popular than the Black Langshans. Some who are raising them say that they lay the year around and are a most excellent table fowl.

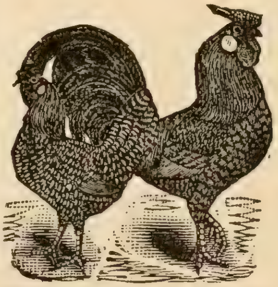
The Silky Fowl, so named because its plumage has a silky, hair-like appearance.



The American Dominique. A valuable and popular fowl.



The Duck-Wing Game has silver-gray plumage, head and face bright red.



Gold-Spangled Hamburgh Fowl.

The Gold-Spangled Hamburgh, one of six varieties of choice fowl.

Langshan Fowl.

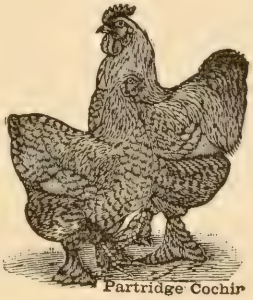
The Langshan, large, showy, black plumage, a good layer in winter.

Wyandotte

The Wyandotte, has beautiful plumage and is a good layer of large eggs.

Japanese Bantam

The Japanese Bantam. Bantam, a town on the Island of Java.



Partridge Cochin

The Partridge Cochin, a large and esteemed breed of domestic fowls.

La Fleche

This is a French fowl, both male and female having a rich black glossy plumage. Has a large compact crest which nearly obscures the face.

Leghorns

The Rose Comb Brown Leghorns are very popular, being better adapted to our colder climates than the Single Comb varieties. They combine both usefulness and beauty. As egg producers they are simply the same as all other varieties of Leghorns, being first-class in that respect. We have often noticed the statement made about some breeder's favorite variety, as everlasting layers, egg machines, etc. If there are any fowls to which we can justly apply this term, it is to the Leghorn family. They have good style, beautiful plumage, and are, generally speaking, very handsome and attractive. They are hardy, chicks easily raised, and mature quite early. Pullets begin laying quite young if well cared for. In size they rank the same as the Single Comb variety. Cocks weigh about 4½ to 6 pounds, hens 3½ to 5 pounds.

Rose Comb White Leghorns.—This is one of the popular breeds of the heavy laying varieties, and are identical with the Single Comb White Leghorns, except that the comb resembles the combs of the Hamburg, and are sometimes called pea-comb Leghorns. They are much admired by poultry fanciers and those having egg farms, being wonderful egg producers. Their freedom from frozen combs makes them more desirable for our northern climate than the single comb varieties. They are very stylish and make a very attractive appearance. They belong to the non-setting class of fowls, and are unexcelled as layers by any of the Leghorn or other families. The eggs are very white in color and medium size. They are very hardy both as chicks and fowls. Chicks grow very fast. Pullets frequently begin laying at four months old. They are a very fine fowl for the table as far as they go, but being rather small, we could not recommend them as a valuable market fowl, but so far as turning cents into dollars in the production of eggs, they stand in the front rank.

Single Comb Brown Leghorn.—There has been much dispute as to the early history of this variety. Certain it is that the early importations were far different from the graceful active brown beauties of today. In all but color this variety should be the same as the White Leghorn. Body and breast color of male is black. Body color of female light brown, the surface on back finely stippled with a darker brown. The breast is a rich salmon, shading off lighter under the body. Legs clean and yellow; skin yellow. The hens lay white eggs, and are non-setters.

Single Comb Buff Leghorn.—This breed has the same general breed characteristics as the other members of the Leghorn family. The color is an even shade of rich golden buff, free from shafting or mealy appearance. Under color a lighter shade. A mingling of different shades of buff in different sections is a serious defect.

Single Comb White Leghorn.—Originated in Italy, but bred in this country for many years. As usually bred, small in size, having no standard weights. This breed is alert, active, of graceful outlines and very attractive appearance. Large, single comb, that of the female drooping to one side. Plumage pure white. Legs clean, yellow. The hens are prolific layers of white eggs. This breed is the standby of most of the large egg farms where white eggs are desired.

Malays

This is a little known breed of which the American Standard of Perfection says, "the cock has a height of 26 inches and a hen 18 inches," the plumage of the male being red or maroon and the female dark brown.

Minorcas

The Black Minorca is a well established breed of English fowls, belonging to the Spanish variety, and wherever bred are considered a valuable breed; are hardy both as fowls and chicks, easily raised, mature early, and pullets commence laying when very young. They are non-setters, small eaters, splendid foragers, and, without doubt, very profitable. Their adaptability to all sorts of places, whether in confinement or allowed unlimited range, makes them very popular, and suitable to the city fancier as well as the farmer. Their plumage is a pure black with green or metallic lustre. Their legs are nice and smooth and medium in length. The chief and striking ornament of the cock is his comb, which is very large, single, straight as an arrow and evenly serrated; has a large, flowing tail, carried somewhat high. The comb of the hen lies over on one side of the face, in a peculiar double fold, similar to those of the Leghorn, but much larger. Wattles are in proportion to the combs. The face is red, but the lobes are of pure white, and show up very distinctly. They are very stylish, having a stately, upright carriage, close, compact body, medium low, and are of a stouter and squarer build than the Spanish. Standard weight of cocks 8 pounds, hens 6½ pounds.

The White Minorcas originated in Spain and are a very old variety. How they originated is not known; but the supposition is that they are sports from the Black Minorcas, as it is a well known fact that a black fowl will occasionally throw off a white chick.

Minorcas—(Continued)

The White Minorcas are similar to the Black in every way with the exception of color, and as many prefer the white chicken they are very popular.

They lay a very large chalk-white egg and are splendid layers; they are larger than the Leghorn family and are a better table fowl, in fact, they rank very high as a table fowl; while great in egg-production, the hens laying from 200 to 250 eggs in a year.

As to vitality and productiveness and quality they equal their cousins, the Black Minorcas.

They are the same build, have coral red faces, white ear lobes and of same size, they are non-setters, great foragers and rustlers.

They have splendid plumage, very gay and attractive in appearance, having the true Minorca shape and good qualities in general.

Orpingtons

The other varieties of Orpingtons were introduced into this country ahead of the Blacks and were so popular from the start that we paid very little attention to the black birds, but the English breeders who originated all the Orpingtons kept insisting that the Blacks had all the good qualities of the others, so American breeders finally took them up. They immediately proved their worth and today the Black Orpington is gaining in popularity faster than any other variety. They have many advantages over the other varieties, and their immense size and wonderful laying qualities make them very profitable. They are very hardy and make the quickest growth of any variety known.

The Single Comb Buff Orpingtons are becoming a very popular breed. They have been a leading breed in England for a number of years; in fact, they are as popular there as the Barred Plymouth Rocks are in America. As a general purpose fowl they are very good. They have a rich buff plumage, and breed as true as any of the buff varieties. They are also good layers. They have nice, well-rounded bodies and white skin, and have all the good market qualities as well as the laying qualities. They are very quiet and tame, and make good mothers.

Diamond Jubilee Orpingtons have been but little bred in this country. The breed was produced by crossing Hamburgs, Cochins and Speckled Dorkings. There are both single and rose comb varieties. The hens are very prolific.

The White Orpingtons are of the same general description as the Buffs, except that they are a pure crystal white and they have all the good points of the Buffs. This variety has been widely advertised during the past few years and a tremendous demand has sprung up for them. They can be developed into excellent winter-layers.

Peacocks

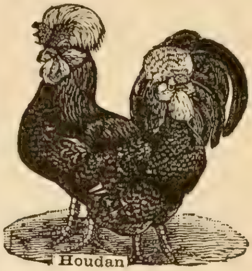
The Peacock is classed among domestic fowls, and is an exceedingly beautiful bird. Native of India. They lay from 25 to 30 eggs and hatch out but one brood a year. Accustomed to roosting very high in a wild state, they desire a high perch where they are kept.

Plymouth Rocks

Barred Plymouth Rocks.—This breed is as solid as its name. They stand unequaled as general purpose fowls. They are quick to mature and make plump, juicy broilers at eight to ten weeks of age. The pullets begin laying early and are persistent layers the whole year around. American in origin and name. Of fine carriage, medium in size. Standard weights: Cock, 9½ pounds; cockerel, 8 pounds; hen, 7½ pounds; pullet, 6 pounds. Hardy. Built for business, both egg and meat production. Single comb. Smooth legs and yellow skin. Lays brown eggs. Plumage hard to describe; grayish white, each feather crossed by narrow bars of darker color extending to the skin. Difficult to breed to standard, but the ideal fanciers' fowl.

Buff Plymouth Rock.—Requirements for this variety same, except plumage, as for other Plymouth Rocks. The variety is said to have been originated in New York State, and to have been exhibited first less than a score of years ago. The color desired is a rich golden buff, the same shade throughout the specimen being desirable. These are excellent utility fowls, as well as desirable for the fancier.

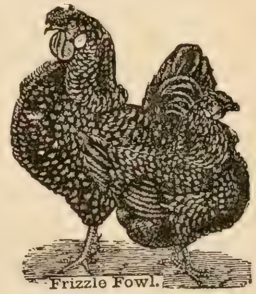
Columbian Plymouth Rock.—This is probably the newest member of the Plymouth Rock family. It was "originated" by several different individuals at about the same time. Some claim its origin as from "sports" of the Columbian Wyandotte, others as from crosses of other Rock varieties with some Light Brahma blood added. In all but plumage it must conform to Rock requirements. The plumage is the same as that of the well-known Light Brahma. Well bred, it is a handsome fowl, in black and white, and its promoters claim that it stands high in utilitarian qualities.



The Houdan has black and white feather crest A prolific layer.

The Brown Leghorn has yellow legs, lays early, 200 eggs a year.

The Spangled Poland, like silver spangled, ranks high among ornamental fowls.


Frizzle Fowl.

The Frizzle Fowl is peculiar, every feather curled and turned back from the body.

Flavor of Eggs

The flavor of eggs may be affected in two ways, first by the absorption of odors after the eggs have been laid. Eggs should be clean and kept in a clean place where disagreeable odors can not penetrate. Secondly, the flavor of eggs may be affected by the character of the food fed to the laying hens.

Too much ground fish, while being a food which helps to promote laying, will give the eggs an unbearable flavor. Strongly flavored vegetables, such as turnips or onions, if fed freely, will have a like, though perhaps not so marked, effect. Care, therefore, should be taken with eggs intended for consumption to keep them away from bad odors, and discrimination should be exercised in the food given to the hens.

If the eggs are to be hatched, however, the feeding of fish scrap, onions and turnips, and the like, will have no deleterious effect upon the hatching.

Frost Bite

If the comb or wattles of fowls become frozen, and it is discovered before they thaw out, apply snow or cold water to remove the frost, for this gradual thawing will often save them. Then apply vaseline to the affected parts twice a day.

Gapes

Gapes is caused by the presence of small worms, which are attached to the lining of the trachea or windpipe, where they cause much irritation and often death to young chickens.

Gapes usually occur when the chicks are from 2 to 6 weeks old. Separate the well from the sick birds and clean the coops, pens, and feed and water dishes by disinfecting with a 5 per cent solution of carbolic acid. Sometimes the worms can be removed from the trachea by inserting a feather moistened with turpentine or kerosene. The oil will cause the dislodging of the worms, and some will be drawn out with the feather while others will be expelled by coughing or sneezing. Place the chicks on a piece of paper, so that the worms may be caught and burned.

Lime

Ordinarily, the hen does not consume enough lime to form the shells of eggs if she is laying abundantly unless something besides the ordinary grain feeds is accessible to her. Oyster shells are very good for this purpose. A box of crushed shells may be placed before the fowls, allowing them to eat at will.

Plymouth Rocks—(Continued)

Partridge Plymouth Rocks.—This new variety of the Plymouth Rock family has sprung into universal favor because of their beauty and utility qualities. They are very rich and beautiful in color, the male being a rich brilliant red, marked with black, and the female a rich mahogany, beautifully penciled with a darker color. They stand confinement well and are great layers.

Silver Penciled Plymouth Rock.—This is one of the newest varieties of Rocks. There are conflicting claims as to its origin. In shape, size, and other Plymouth Rock characteristics they must conform to the breed requirements. The general color scheme of the plumage is silvery white and black. The beautifully penciled feathers render this a most attractive variety and as it is claimed to possess the practical qualities of the family it should be a good utility fowl as well.

The Pea Comb White Plymouth Rock is what we might call a general utility breed. Like the Single Comb variety, they possess all the desirable qualities of an all purpose breed, and in one point they will surpass them. Having the Pea Comb, they are what may be called frost-proof, which is a very desirable feature in cold climates. They are not bred as extensively as the Single Comb variety, owing to the fact that they are practically a new breed, and people have not become acquainted with their qualities as they should. They are simply a grand breed of chickens and are deserving of a foremost position among breeders. They are large, good style, grand, stately carriage, well shaped bodies, have a nice yellow skin, which is so desirable in market poultry. Hens make good setters (but are not persistently broody), good mothers, will care for their young as well as any breed. Their chicks grow very rapidly, feather out early and will round up for market when quite young. Their laying qualities are not to be disputed. They will lay as many eggs as any of the large breeds. Their eggs are the same in color as other Plymouth Rock eggs. This is a noble breed and is destined to become one of the leading varieties when once their merits are better known.

White Plymouth Rock.—In size, carriage, color of legs, skin, face, etc., same as the Barred, but plumage pure white. Some judges say they have more typical shape than the original Barred variety. As table fowls, they lead the other varieties in many localities. Whites are easier to breed to standard than other varieties of Rocks, hence better for the beginner.

Polish

White Crested Black Polish.—This is the most beautiful and ornamental of all the Polish family. Their large white crests and shining black plumage make a very pretty contrast, and they are great layers. The eggs are fine flavored. A small pen of these birds make a very beautiful sight on the green lawn, and they will keep the table supplied with fresh eggs the year around.

Redcaps

The Redcaps are an old, useful variety of good size and development. Weights, 7½, 6, 6, and 5 pounds; very large rose comb; color, in male red and black, in female, brown and black.

Rhode Island Reds

Down in the southern part of the little State of Rhode Island is a district known as Little Compton. It lies on the shore of the Atlantic Ocean, exposed to the raw winds of winter and the scorching suns of summer. The land is poor and rocky, and the soil returns but little when an attempt is made to produce farm crops. The people residing in this district are of a hardy race and thrifty, yet the natural disadvantages of their surroundings would seem to be insurmountable. The men are mostly engaged in fishing along the coast and the women raise poultry for the near-by cities. In such a district, only a very strong, thrifty breed of fowls survives, and it is here that we find the

First Record of Rhode Island Reds

The residents of this little district produced a hardy breed of fowls that were great foragers, quick to mature, and wonderful layers, and yet they started out with no definite idea of the breed they were producing. In fact, the Rhode Island Reds were produced and bred for years before they were known outside of this little district, and it is only in recent years that their fame has spread over the country. At first people were inclined to scoff at them because of their peculiar color, but now their admirers are legion and they have a foremost place with poultrymen, both as a fancier's fowl and for market. A great many claim the Reds originated from importations from Java brought in by the whaling vessels.

These fowls have spread over the country like wildfire, and now the demand for first-class stock and eggs is something enormous.

Only one variety leads them in total sales, and that by a small margin.

Hens' Nests.

Every poultry house should be well supplied with nests which are easily accessible and readily removed for cleaning and disinfecting. There are many methods of arranging nests, each method having some particular advantage over all others.

Location of Nests.

The nests may in some instances be placed under the front edge of the dropping board and so arranged that the hens enter from the rear and the attendant gathers the eggs by opening a door or doors on the front side. This is an inexpensive arrangement, as the dropping board forms a cover for the nests. These nests are dark, which is a decided advantage, as hens like to hide, and there is less danger of them learning to eat eggs. It has the decided disadvantage of making the floor under the dropping boards of little use in feeding. It darkens the floor and hens are much more likely to lay in the straw on the floor than in the nests, with the result that many times eggs are left for several days before being gathered. The careful poultryman who furnishes guaranteed eggs will not sell those which have been laid on the floor. In buildings which have a high rear elevation, some trouble may be obviated by elevating the roosts and dropping board. This can be done, especially with Leghorns or other light breeds that fly well. For the heavier breeds, it will be found necessary to put in a slanting board with cleats to enable the hens to walk to such a height.

Floor Well Bedded.

It will always be found necessary to keep the floor extremely well bedded. Many heavy hens will jump down from the dropping board instead of walking down the inclined perch and if the litter is thin, they may injure their feet.

Another and quite common arrangement is to fasten small open boxes to the walls of the poultry house. These boxes can be fastened with two 6d nails and easily removed for cleaning. Where this system is used, if the boxes should accidentally become badly infested with mites, the entire box being of little value, can be burned and new boxes put in. This method does not allow trap nesting, and the nests are not dark, yet it is used very extensively by poultrymen.

Gather Eggs Twice a Day.

Where hens are confined and allowed to lay in open nests of this type, the eggs should be gathered at least twice each day. This is an extremely good practice and should be followed, especially on farms where a good quality of table eggs is being produced.

Size of Nests.

A nest for a Leghorn or other small hen should be 12 inches square; for the larger varieties, 14 inches square. The nest should give at least 12 inches head room and be about 14 inches high. They should be kept clean and well bedded with fine nesting material, such as straw or hay. Shavings, excelsior, etc., are not satisfactory as a rule, for they may stain the eggs. Coarse straw and other harsh substances do not make satisfactory nesting material. A hen likes a piable, soft substance in the nest.

First Record of Rhode Island Reds—(Continued)

This breed comes in two distinct varieties, each the counterpart of the other except in the shape of comb. The Rose Comb birds are well fitted to withstand the extreme cold of the northern winters and the Single Comb birds are adapted to the warmer climates and for those who do not fancy a rose comb. The Single Combs will do as well in cold weather as the others but must be kept warmer to prevent their combs from freezing. Many poultry raisers in northern Canada are getting the best results from their Single Comb birds.

The Rose Comb Reds are identical with the Single Combs except that they have a low, close-fitting rose comb not so liable to be frosted.

White Faced Black Spanish

Black Spanish Fowls belong to the Mediterranean class. They are a non-setting breed, and are as hardy as the Asiatics. The Spanish are much larger than Leghorns, being as heavy as Wyandottes. As layers they are not surpassed by the Leghorns. They lay a large, white egg, and lots of them. Their plumage is a rich, glossy black throughout.

Sultans

"**The Sultans** have," says the Standard, "for their most attractive characteristics, the novel feature of a full crest, muff and beard. Plumage, male and female, pure white."

Turkeys

"Have for turkeys," says "Making the Farm Pay," "an open shed for roosting. Feed them in the same manner as suggested for hens in winter."

Wyandottes

The Black Wyandotte is one of the most valuable breeds, and all because of their good qualities as a general purpose fowl. Their plumage is a beautiful glossy black, which makes them very attractive.

The Buff Color.—Many prefer this color, and with it you get all the quality that is given for any of the other classes of Wyandottes.

In general utility, the size, shape, egg laying qualifications, etc., are practically the same in all the Wyandotte family, of which there are quite a number. You will notice that we list the Buff, Golden, White, Silver Laced, Partridge, and Columbian. Some prefer one, while others choose another. There are so many people who prefer the buff color to any other, and would like to have something in the Wyandotte class, and to lovers of such a fowl we highly recommend the Buff Wyandottes. It is a breed that will not by any means disappoint you. They are all that you can possibly expect of them. The Buff Wyandottes are good layers, and especially if you get a good laying strain introduced.

The Buff Wyandottes make good mothers and are good setters, but they are not persistently broody. The chicks are hardy and grow vigorous, maturing very early. Cock-birds will weigh from 7 pounds to 9 pounds, and hens from 6 pounds to 8 pounds. The standard requirements of the color of this breed calls for a rich golden buff.

The Columbian Wyandottes are a very popular fowl indeed. It is a fowl that is not known by every one, and a fowl that you do not find in every barn yard. It is considered one of the most beautiful fowls.

The Light Brahma is the older of the two fowls, and being very beautiful, it was the desire of breeders to get a bird with the same markings, with smooth shanks. The result was the Columbian Wyandotte. This bird is not as large as the Light Brahma, by any means, and does not have quite the same shape. It has smooth, yellow shanks. The Columbian Wyandottes are not unlike other Wyandottes as far as shape and other utility characteristics are concerned. The Wyandotte family, next to the Rock family, is one of the most widely known of any of the poultry breeds, and is looked upon as having peculiar characteristics of their own that really excel some of the other well-known breeds that are offered. The Columbian is by no means a sport of any of the other Wyandotte varieties, but it is a breed that has been built up by itself, and has been bred up from some of the most noted strains, and has proven to be one of the highest class of the Wyandotte breed.

The Golden Wyandottes were made by crossing the Silver Wyandotte with a breed known, locally, as Winnebagoes—a strong breed of a red color, now extinct. The Golden Wyandotte has a tendency to grow rather larger than the other varieties of this family, which is in its favor as a market fowl. It is often called the "beauty breed," on account of its pleasing combination of color, the males being red and black on back, neck, tail and wings, while the breast feathers of males and the entire body plumage of females is composed of a ground color of a deep rich bay, each feather bordered or laced, with a narrow edging of deep lustrous black. The Golden Wyandotte has all the good qualities of the Wyandotte family.

Wyandottes—(Continued)

Partridge Wyandottes.—This excellent variety of fowls is in color the same as the Partridge Cochin, but in all other respects they are much different. We find in them the same excellent qualities that we do in the older Wyandotte families. They are strong and hardy, and as chicks they develop very rapidly. They are splendid layers of eggs the same color and size as the other Wyandottes; have nice yellow skin and legs, which is very desirable in market poultry; make good mothers, but are not inveterate setters; will hatch their own chicks if permitted to do so. In size they are fully as large as the Silver or White Wyandotte; have nice low rose comb, which makes them particularly well adapted to cold climates.

Silver Laced Wyandottes.—This is the original Wyandotte family. Its introduction was hailed with delight, and it at once became very popular. No one knows what mixture of blood was used in making the breed, but there is reason to believe Silver Spangled Hamburg and White Cochin blood were both used. Silver Wyandottes are very hardy; the chicks mature early, and the hens are fine layers. In the great Australian Laying Competition, a pen of Silver Wyandottes won the first prize two years in succession, each pen averaging more than 200 eggs for each hen in it twelve months. In this country a Silver Wyandotte hen has made a record of 804 eggs in four consecutive years. This record has never been beaten. The chicks are ready for market at any time, as they get their plumage at once, and grow up symmetrical and plump. Good Silver Wyandottes are always in demand.

White Wyandottes.—Next to the Barred and White Rocks, probably the White Wyandottes are the most popular breed of chickens and many contend that they are the best all around general purpose fowl. There is no doubt that they are the most popular breed for broilers and are used on the great broiler plants of the country. They are pure white in color, feather out quickly and cover with plumage at a very early age. They have very square, compact, plump bodies. They have a neat, rather small rose comb; wattles are small and ear lobes bright red. They have yellow legs and beak. They excel as layers and especially as winter layers and respond readily to good treatment or do excellent as foragers. For the past few years this breed has crowded all other varieties in numbers shown at the big shows and there is no question of their growing popularity.

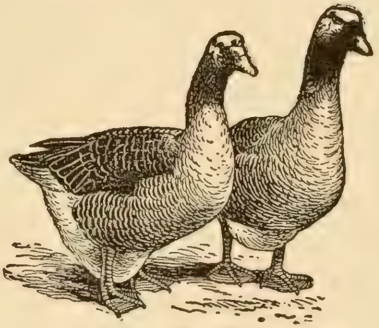
Color Produced by Feeding

It has long been known that food has considerable effect upon color. Yellow or red maize will make most white fowls perceptibly more yellow than white maize or other grain, and much hemseed will darken the ground color of a moulting Brahma hen.

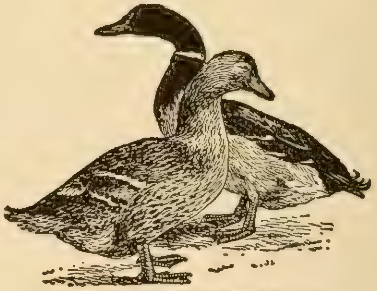
It has also been known for many years that the constant use of iron, whether in natural chalyoeate streams or given artificially, tends generally to intensify color, whether in legs, plumage, or yolks of the eggs. The most definite effect of food upon color generally known is in canaries, in which (or rather in some of which, for the effect varies greatly in individuals) the constant administration of cayenne throughout the whole period during which the feather is growing converts a rich yellow into very deep orange-red. This fact, coupled with the success of some breeders in showing rich, deep buff in the many buff varieties of fowls which have become so popular since 1890, has led many to the conclusion that the best specimens owe their fine buff color and other colors like the bay of Golden Hamburgs, their richness, to special feeding even more than to careful breeding, and "color feed" for poultry is occasionally advertised in the poultry papers.—Wright's Poultry Book.

GEESE AND DUCKS

CONVENIENCES NECESSARY IN THIS DEPARTMENT OF POULTRY



Toulouse goose and gander.



Rouen duck and drake.

MANAGEMENT OF GEESE

The goose cannot profitably be raised in as large numbers as the duck, but still it cannot be termed unprofitable. There are many places on a farm that are worthless for cultivation that could be utilized with excellent results for goose raising. Fields that have streams, branches, or unused springs on them could be turned to good advantage by making them into goose pastures. Many farmers are profiting by this and adding to their incomes annually.

The care and attention necessary for raising geese are very small when compared with the returns, and the cost of food is also proportionately small in comparison with the cost of food used for other birds bred for the market. A goose on range will gather the largest portion of its food, consisting of grasses, insects, and other animal and vegetable matter to be found in the fields and brooks. A free range and access to water are required.

The simplest kinds of houses are used for shelter; these should be built after the plans of those for ducks, but should be proportionately of larger size to accommodate comfortably the number of birds to be kept.

Geese are long-lived birds, some having been known to attain the age of 40 years, while birds 15 and 20 years of age are not uncommon. They retain their laying and hatching qualities through life.

Seven Breeds of Geese—Ponds for Use of Ducks

Ganders should not be kept for breeding after 3 years of age; young ganders are more active and insure greater fertility of the eggs than old ones do; besides, ganders become more quarrelsome as age advances.

Standard Varieties

There are seven standard varieties of geese, as follows: Gray Toulouse, White Embden, Gray African, Brown Chinese, White Chinese, Gray Wild and Colored Egyptian.

All breeds of geese, except perhaps the Egyptian, are to be recommended to farmers who keep a limited number in addition to other poultry and allow them the freedom of the farm; but when goose raising is to be more extensively engaged in, the African goose is to be especially recommended. It is the quickest to mature, most prolific, and the easiest to handle of all varieties.

In breeding African geese mate two geese to one gander, and it will be still better if pairs are used to secure better fertility of the eggs.

The most satisfactory results are to be had by breeding pure standard-bred stock without crossing. But for those who are partial to crosses the following are considered the best to make: (1) Wild gander on African goose; (2) Embden gander on Toulouse goose; (3) Embden gander on African goose, and (4) Embden gander on White China goose. These crosses will give good growth and the young birds will dress well for the market. Crosses should only be made for market purposes, and should always be bred from original stock.

Fattening Young Geese

To fatten young geese, place them in a pen, not too large, so that they will not exercise too much, and feed three times a day all they will eat up clean of the following: Corn meal mixed to a dry, crumbly state, and beef scraps amounting to 20 per cent of the bulk of the corn meal.

While fattening young geese they should be kept as quiet as possible; no excitement whatever should disturb them. When feeding approach them quietly, and do not irritate them in the least or they will not fatten, but will "throw out" or grow another crop of feathers. At 10 weeks of age, or when the tips of the wings reach the tail, they are ready for market and should weigh between 8 and 10 pounds.

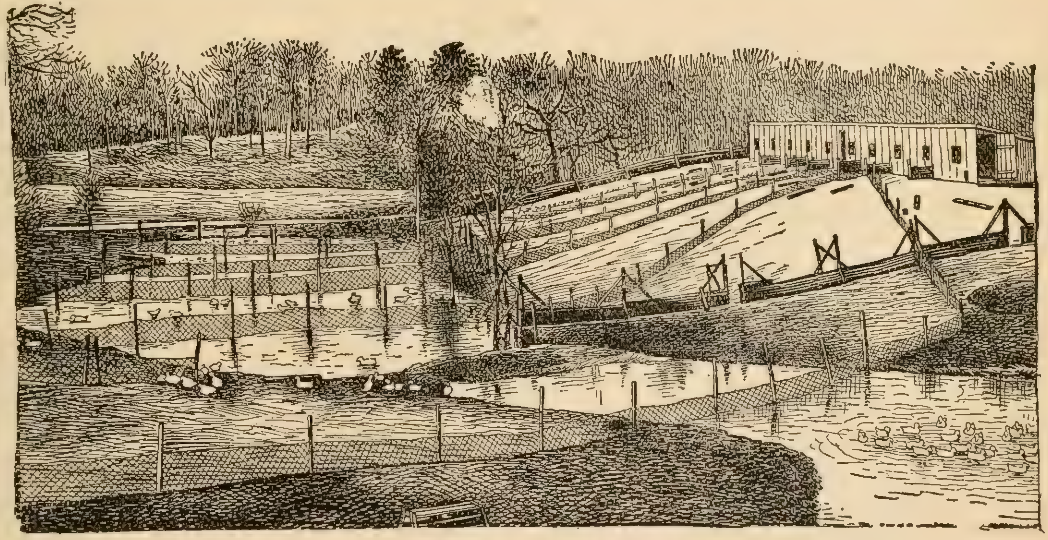
Young geese should be marketed in October. It is best to market all possible before cold weather sets in. It is much harder to dress a gosling in cold weather. The feathers set tighter, and in picking them the flesh is torn.

Good Setters and Mothers

Almost all breeds of geese are good setters and attentive mothers, and if left to themselves will make their nests, much as when wild, and hatch a large percentage of their eggs. But hens are now more frequently used for hatching goose eggs; as by taking the eggs from the goose when laid and giving them to hens to hatch, the goose will lay a greater number of eggs than if she were permitted to set.

The feathers of geese are an important source of revenue and find a ready sale in the markets. A goose will average about 1 pound of feathers a year.

SHOWING HOW STREAM MAY BE USED FOR RAISING DUCKS



-House for breeding ducks, showing water runs.

RAISING DUCKS FOR MARKET

Duck raising has been developed into a flourishing industry within the last twenty-five years. Prior to that time the duck was not considered a profitable bird to raise. Its flesh was never esteemed very highly by the general public. Ducks were raised without constraint in waterways, feeding mostly on fish and water insects. This food gave the flesh a strong fishy flavor; hence it was not particularly sought after, save by the few who were partial to that class of diet. The duck centers of Long Island and New England were then producing a limited number each season, and it was with difficulty that these were sold with any profit.

In recent years, however, artificial incubation and brooding, combined with judicious feeding, have been instrumental in the development of the industry. Machinery enables the duck raiser to have his stock in the markets when prices are the best, and also to raise large numbers of birds in a limited space of time. The season for raising ducks is about six months—from February to July, inclusive.

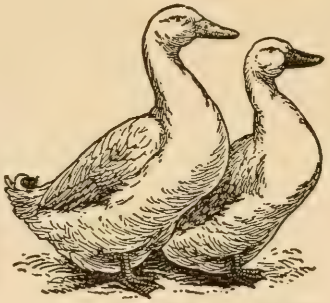
The Twelve Standard Breeds of Ducks in This Country

SIX BREEDS AS FOLLOWS:

1. **White Pekin**
2. **White Aylesbury**
3. **Colored Rouen**
4. **Black Cayuga**
5. **Colored Muscovy**
6. **White Muscovy**

SIX BREEDS AS FOLLOWS:

7. **Indian Runner**
8. **Gray Call**
9. **White Call**
10. **Black East India**
11. **Crested White**
12. **Blue Swedish**



White Pekin duck and drake.

The novice will do well to begin by studying the methods employed by successful duck raisers, and to use only the most approved buildings, appliances, and plans of feeding and care.

Duck raising is to be recommended to farmers as a profitable source of revenue. There are numbers of farms in this country today that are devoted exclusively to raising ducks, averaging from 5,000 to 30,000 ducks as an annual output. An idea of the proportions of the business may be had from the fact that as high as three tons of feed are used daily by a single raiser during the busy season. The profits are the very best, and good incomes may be made when once the business is thoroughly mastered. But the reader should not jump to the conclusion that these results can be easily obtained. Duck raising is an arduous task; one that requires an apprenticeship and absolute knowledge of the business before success is reached.

The average farmer has all the facilities for raising a goodly number of ducks, and may with a little outlay add considerably to his income.

It is not at all necessary that ducks should have access to water to be raised successfully, for they grow and thrive as readily without it. There are successful plants where thousands of ducks are raised that have no water, save that which is given them as drink.

Without Water

Some duck raisers use water in ponds, etc., and allow their breeders the freedom of it; some allow the growing stock intended for market free access to water until they are eight weeks, when they are penned and fattened for market. On the other hand, there are raisers having no water on their farms, except in wells, who are just as successful and raise as many birds as those who have the water.

The only noticeable difference between "upland" and "water" ducks is that the latter are of cleaner and prettier plumage than the former.

There are twelve standard varieties of ducks raised in this country, as follows: The White Pekin, White Aylesbury, Colored Rouen, Black Cayuga, Colored Muscovy, White Muscovy, Indian Runner, Gray Call, White Call, Black East India, Crested White, and Blue Swedish. Of these varieties, the first seven are considered profitable to raise; the two varieties of Calls and the Black East India are bantams, and are bred more for the showroom; the Crested White may be considered as almost purely ornamental, while at present but little is known of the Blue Swedish in this country.

Of all the ducks for farm and practical purposes none stands higher in popular esteem than the White Pekin. It is valuable for raising on a large scale and is the most easily raised of all. It is a very timid bird and must be handled quite carefully. It was imported from China in the early seventies, and has steadily grown in popularity since its introduction into this country. These ducks are large, they are the best of table fowls and excellent layers.

The Colored Rouen duck is deservedly popular throughout this country, and is considered one of the most profitable varieties to keep. These ducks are said to have come originally from the city of Rouen, in Normandy. The flesh is considered very delicate and the breed is easily fattened.

The Black Cayuga is distinctly an American duck, having been bred so long in this country that all trace of its origin is lost. It is said that it was first found in the central part of New York. It is a good practical duck to keep, though most duck raisers prefer the white-feathered birds.

Buildings for Breeding Ducks

Houses for ducks are simple affairs. They are built plain and comfortable, and have no furnishings whatever. A duck is differently constituted from a hen, and must be cared for under different conditions. The hen needs warmer houses and drier surroundings than does the duck. A duck does not mind the cold if she can keep her feet warm. Cold feet will affect a duck as a frozen comb does a hen, retarding laying and inducing ailments. The feathers of a duck are almost impenetrable and will withstand almost any degree of cold. Then again, a duck cannot stand the amount of confinement in a house that a hen can; she is more restless in disposition and is given to exercise in a greater degree than is a hen.

The duck house can be built of rough boards, 12 inches by 1 inch, and the joints covered by 3-inch by 1-inch strips. The roof should be made water-tight and covered with roofing-paper, shingles or tin. The outside should be well drained around the bottom, that it may not be damp.

If the house is well drained on the outside and the earth floor is covered with hay, straw, or leaves, it will be perfectly satisfactory. There must not be dampness in the house, as the birds will not do so well; while they are given to water on the outside they must have comfortable quarters in which to "warm up" or "dry out."

It is not necessary to provide nests for ducks. More than half the eggs are laid on the floor of the house or in the yard, and, if permitted, a duck will build herself a nest to her liking.

An inclosure should be given the breeding ducks, as they do better confined than when at liberty.

Care of Ducklings

Most duck raisers who operate on a large scale plan to have a "warm brooder house" and a "cold brooder house." Young ducklings, when taken from the nest or incubator, are very delicate and susceptible to the changes of the atmosphere; they must be kept very warm and free from chilling. The first three weeks of a duckling's life are the most critical period, and after that time the liabilities of loss are reduced to a very low rate—hardly five to the hundred.

The front of brooders for young ducklings should be hung with strips of woolen cloth to keep in the warmth of the brooder. The greatest care should be given them at this period; duck raisers consider it the most important part of their work, and after a bird has passed this "critical age" it may be counted on for the market.

The duckling goes from the warm brooder house to the cold brooder house. When the birds are taken from the warm brooder house they are three weeks old and of sufficient age to withstand a cooler temperature. They do not need the extra heat of the warm house, and in it would not grow nearly so well. The size of pens in the growing house is larger, and the ducklings are not crowded so many in a pen. The brooder houses are, of course, equipped with a system of heating that can be easily regulated.

When Salable

Ducklings are kept in the cold brooder house until they are 6 or 7 weeks old, when they are transferred to larger "growing houses." It is here that they are pushed for the market until they are 10 weeks old, when they are salable. There is no heat in the growing houses, which are used only as a means of shelter during the early spring months. When the weather is well advanced, the ducks seldom take to the houses at night; they prefer the outside and spend their nights on the ground. The growing houses should be abundantly ventilated, as too close an atmosphere will do more harm in a single night than if they had not been housed at all.

What to Feed Ducks—How and When Feed—Cost of Raising

Supplying Water

As has been previously stated, water for bathing is not at all necessary for growing ducks, but a liberal supply for drinking is absolutely essential to their growth. The food of the duck is such as to require drink when eating, as it is comparatively dry and cannot be eaten hurriedly, as grain is. When feeding, always replenish the water troughs or fountains with pure fresh water

Feeding Ducks

The food of the duck is both vegetable and animal in nature. In the wild state it gathers its food from brooks and marshes, consisting of flag, grasses, small fishes, water insects, etc. When the birds are raised in confinement this diet must, in a measure, be imitated to get the most satisfactory results.

The duck has no crop, the food passing directly from the throat to the gizzard, and as a consequence the food must be in a soft mushy state. Too much hard food, such as grain, does not agree with these birds and they cannot thrive on it. While some raisers use a small allowance of grain others do not, and it has not been proved to be of any advantage to feed it. Soft food is the duck's natural diet, together with grasses, vegetables, and animal food.

Method of Feeding

It costs from 6 to 12 cents a pound to raise a duck for market at ten weeks of age. It costs from $1.75 to $2.50 each to keep breeding ducks a year.

The usual hours for feeding are 6 a. m., 10 a. m., 2 p. m., and 6 p. m.

Below is given a system of feeding ducks for marketing at ten weeks of age, as used successfully by one of the largest duck raisers on Long Island. It is divided into three parts, as follows:

(1) From time of hatching to seven days old, feed equal parts by measure, corn meal, wheat bran, and No. 2 grade flour, and 10 per cent of this bulk coarse sand. Mix with water to a dry crumbly state and feed four times a day.

(2) From seven to fifty-six days old, feed equal parts by measure, corn meal, wheat bran, and No. 2 grade flour; 10 per cent of this bulk beef scraps; 10 per cent coarse sand, and 12½ per cent green foods (green rye, oats, clover, etc.). Mix with water to a dry crumbly state and feed four times a day.

(3) From 56 to 70 days old, feed two parts by measure, corn meal; one part wheat bran; one part No. 2 grade flour; 12½ per cent of this bulk beef scraps; 10 per cent coarse sand; 12½ per cent green food. Mix with water to a dry crumbly state and feed three times a day—morning, noon and night. Give last feed an hour before sundown.

When ducks are raised for breeders they are fed differently from those intended for market. They are not forced so much as are the latter, and less fattening food is given them. The corn meal and beef scraps are reduced to one-half quantity used in the above rations. The following is an excellent ration: Equal parts corn meal, wheat bran, green food, 5 per cent beef scraps, and 5 per cent coarse sand or grit.

Grit in some form is essential to ducks, and should be kept before them at all times. Many overlook this fact, and do not seem to understand that it is of as much value to them as it is to chickens.

Hatching Ducklings

Hatching under the setting hen (generally used for hatching ducks) is what is termed the natural process of incubation. The hatching of eggs by this means has always been followed, and no special skill is needed for success, provided the eggs are well fertilized with healthy germs. Many who raise ducks in large numbers, however, use almost exclusively artificial means; some use both the natural and the artificial, while others use the natural entirely.

There are many thousands of ducklings hatched by artificial means each year, and numbers of good mechanical incubators are now manufactured in this country at low prices. The methods of artificial incubation for ducks are in general similar to those fully described in the article on the incubation of chickens.

Colony Houses. View of Michigan Poultry Farm, Lansing, Mich.

Separate Houses

The colony house system consists of having one flock of one colony in one building. Colony houses are of two types, the portable and non-portable. The portable type of colony house has many advantages, especially for growing young stock. The usual method is to nail them on runners and then have a team draw them from place to place as wished.

This type of house saves much feed which has been wasted in the fields. You may draw the house into the grain field after the crop has been harvested, and then, after the oats is cut, the house and chickens can be moved into the oat field, etc. In this way stock is always kept on clean ground and gets more insects than would be possible when kept around the farm buildings.

Setting Hen

The setting hen must have her daily care and attention, just like the incubator.

One of the best foods for setting hens is whole corn or corn chop, together with green food, grit and fresh water. Place the corn and water in front of the nest so that during the first day or two the hen will not have to leave her nest to eat and drink. On the third day release her and scatter grain on the ground.

Try to have it so arranged that she can get a dust bath. A formula for a good dust bath is equal parts of coal and land plaster or fine sand, and some lice powder. Let the hen remain off the nest for about five minutes. The next day take her off at the same hour, if possible, and from then on she may stay off the nest until the eggs are cooled to blood heat.

Stop Desire to Set

To stop a hen from being broody, place her in a small crate or wire exhibition pen with a slatted bottom, so that she has nothing substantial to sit upon. You should then place the crate or pen in the run with the other birds, and place the broody hen in the same, then commence to feed her very sparingly indeed, but supply her with plenty of drinking water.

The broody hen should not be fed until some time after you have fed the other birds, but she should be placed near the other birds when you are feeding them. After the broody hen has been kept in the above structure for a couple of days, all signs of broodiness will have been suppressed without doing the bird any harm.

The Six Standard Breeds of Turkeys

THE NARRAGANSETT

THE BUFF TURKEY

THE BRONZE TURKEYS

Standard Varieties and Management

No other kind of domestic poultry has come into such general use throughout the entire world for holiday feasts as has the turkey. Market statistics show that there has been an active demand for turkeys for many years past and the best birds invariably bring good prices. In fact there is no kind of poultry more profitable than turkeys when properly handled.

The fact that from the time they are six weeks old until winter sets in, turkeys will gain the greater part of their entire living from bugs, grasshoppers and waste grain that they pick up in their wanderings over the range, assures their existence during this period at little or no cost to the grower. In other words, they may be termed self-sustaining foragers where they have sufficient range.

Preferred Weight for Market

Turkeys that are hatched early in the spring should grow to weigh from 14 to 20 pounds by Thanksgiving week. These weights are often exceeded by the best growers, but as they are the most popular and most readily produced, they are suggested as the most advisable.

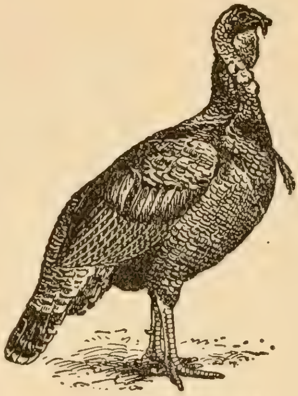
The average yield of turkey hens is from 18 to 30 eggs, each of which can usually be counted on to produce a living poult. The question of profit from keeping turkeys simply resolves itself into the ability of the grower to bring them to a marketable size. This can readily be done if care and attention be given to all the requirements for success.

Six Standard Varieties

Six standard varieties of turkeys are more or less grown in this country, viz: Bronze, Narragansett, Buff, Slate, White, and Black. The main differences are in size and color of plumage. The Bronze and the Narragansett are the largest, the Buff and Slate are the medium, and the Black and White the smallest.

Roosting Places

Turkeys do better when they can roost in the open. If well fed, they will thrive more in the shelter of the trees than in a close, confined house. The troubles that arise from allowing them to live in the trees are that they become wild and frequently are stolen. If housed, their quarters should be airy, roomy, and perfectly clean. It is not wise to have them roost with other poultry.



Bronze turkey cock.

Origin of Varieties

Our domestic turkeys have all been bred from the wild turkey of the United States and Canada and the wild turkey of Mexico. Climatic conditions have prevented the Honduras, or Ocellated, turkey from playing any considerable part in bringing the domestic turkey to its present state of development. The wild turkey of North America has for the most part been used as the foundation from which size and vigor in our domestic stock have been gained. As to the origin of the White variety, nothing that may be classed as authentic is recorded. The Blacks may have come from either of the wild varieties as sports, and the same may be said of the Whites.

The Bronze turkey holds the post of honor. It probably originated from a cross between the wild and the tame turkey. Its beautiful rich plumage and its size have come from its wild progenitor. To maintain these desirable qualities, crosses are continually made. In this way the mammoth size has been gained. Their standard weight ranges from 16 to 36 pounds, according to age and sex. Probably more of this variety are grown each year than of all others.

Selection of Breeding Stock

A few plain rules which may be observed in the selection of breeding stock are as follows:

1.—Always use as breeders turkey hens over one year old. Be sure they are strong, healthy, and vigorous, and of good medium size. In no instance select the smaller ones. Do not strive to have them unnaturally large.

2.—The male may be a yearling or older. Do not imagine that the large overgrown males are the best. Strength, health, and vigor, with well-proportioned medium size are the main points of excellence.

THE SLATE TURKEY

THE WHITE TURKEY

THE BLACK TURKEY

3.—Avoid close breeding. New blood is of vital importance to turkeys. Better send a thousand miles for a new male than risk the chance of inbreeding. Secure one in the fall so as to be assured of his health and vigor prior to the breeding season.

The best rule for mating is to have four or five females to one male or tom.

Egg Laying

The hen turkey will begin laying from the middle of March to the first of April. In the warmer localities they begin to lay even earlier than this.

A feature of vital importance is assured fertility of the eggs. As soon as the hen turkey has paired with the male she pays but little attention to him for the time, being fully intent on locating a nesting place where she can lay her eggs.

It often occurs that the hen will begin to lay at a time when changeable weather may endanger the vitality of her eggs. She should be closely watched in her wanderings, so as to locate her nest and gather the eggs in order to protect them from the cold nights that may come at this early season of the year.

Hiding Nests

If unrestrained, the hen will naturally select some secluded place, under a pile of lumber or logs, or in the brush, for example, where she can hide her nest, hatch, and bring out her young after her natural inclination. If she selects a place which is not well protected, it is better to provide a box or coop, with a suitable opening for ingress and egress, to protect her and her eggs from the weather during the four weeks of incubation. In addition to this, a slat or lath frame may be placed over her a short time prior to the hatching of the eggs, so as to prevent the hen from wandering away with the young poults as soon as hatched.

Those who favor the "perfect liberty" plan may secure larger flocks by following the above suggestions. Good care should also be given to the feeding of these semiwild flocks while young and in unusually wet weather.

When the grower wishes to save all the eggs laid, provision must be made against the hiding of nests by shutting the hens into inclosures. In this way they may be taught to lay in prepared nests, where they will set when broody. From these inclosures they may be given freedom to roam about after 3 or 4 o'clock each day, or after they have laid. When roosting time comes, either coax or drive them back if they do not go voluntarily. By so doing one may have eggs to sell or set at will. Turkey hens will lay from 15 to 20 eggs before becoming broody.

Facts About Turkeys

Wide Range Necessary

It is not advisable to keep turkeys on a small confined place. Some have done well with them on from 8 to 20 acres, but only a few can be grown in this way and by the exercise of constant care.

A wide range of territory for them to go over undisturbed is of vital importance; here they will select the kind of food most to their liking. In the early spring and summer season such a range furnishes plenty of food and exercise for the breeding stock, and later the finest feeding-grounds for the growing poults.

If it is found necessary to confine them, all that is needed is a shed or house that will protect them from the elements and marauders of all kinds, and at the same time not be too confining for them. Place the roosts well up from the floor, and keep the interior perfectly clean and free from vermin.

In localities where it is not too cold during the winter months, it is better to allow the breeding stock to roost out in the open, either in the trees, or upon roosts prepared for them by planting posts that project about 8 feet above the ground. Upon these place long poles about 2 or 2½ inches in diameter for roosts. Roosting places of this kind are better sheltered when located on the south side of a barn or building.

Hatching

Turkey hens produce such a limited number of eggs that it is seldom necessary to use an incubator for their hatching, as the hens themselves can hatch all they lay, or nearly all. Sometimes turkey eggs for hatching are given to chicken hens of large size and the poults they bring from the eggs are given to the turkey hen to rear.

It takes from 27 to 29 days for turkey eggs to hatch. The eggs are usually fertile and quite often each egg in the nest will produce a living poult.

Some turkey hens will rear two broods in a season when permitted so to do.

While incubating their eggs the hens should be supplied with food and water; these should be placed close at hand where they may go to them at will; or their coming from the nest, as they will each day, should be observed so that they may be fed and watered. Good sound wheat and corn are best for their food at this time.

Growing the Poults

The most difficult part of turkey raising is to know how to care for the poults. It will be necessary to learn from actual experience what to do and when to do it, as well as acquiring a knowledge from other breeders and from study of standard works on the subject.

Squabs ("squeakers"), 24 hours old.

Squab Raising

The raising of squabs, or young pigeons, for the market has been made a profitable business by many farmers and suburban residents in recent years.

The standard size for squabs is 8 pounds to the dozen, the birds being killed before they get so large that they leave the nests.

It will pay to go into the pigeon business for squabs only provided one gets the right kind of stock and gives careful attention and proper management.

The best breed to use for squab raising is straight Homers or a cross between them and Dragoons. Successful breeders use Homers almost exclusively, because they are the best workers and feeders and raise larger squabs in four weeks' time than any other variety. By a cross of straight Homers with Dragoons you get a larger squab in four weeks' time than with straight Dragoons. A pair of straight Dragoons requires five weeks to bring squabs to market size, but the cross will result in a larger squab which can be put on the market in a little over four weeks.

Housing and Feeding

One large pigeon house is better and more economical than several small ones, but in no case should a house be built to accommodate more than 250 pairs. If larger numbers are to be kept, more than one house should be built. A room 8 by 10 feet will accommodate 50 pairs very comfortably. The fly should be extended 32 feet if possible.

Pigeons should be fed twice a day—in the summer time at 6:30 a. m. and 4:30 p. m., in the winter at 7:30 a. m. and 3 p. m.

The best kinds of feed to use are cracked corn, red wheat, Kafir corn, millet, peas, hemp, and rice. In the morning give wheat, cracked corn, and peas in equal parts; in the afternoon give equal parts of cracked corn, peas, Kafir corn, and millet. The birds should be fed in the pen rather than in the fly.

Water birds every morning before feeding, using nothing except fresh pure water. Always clean out the fountain before filling.

Points for Squab Raisers

Bathing is very essential to the health of pigeons. In summer they should have an opportunity to bathe at least every other day. In winter the bath should be given only on bright, sunny days.

It is essential to clean house once every week. After cleaning the nests, put powdered carbolated lime in all cracks, corners, and damp places. Sprinkle the floor with lime and sprinkle a bucket of sand evenly over the lime.

A practical New Jersey breeder with 425 pairs of pigeons produced in one year 4,400 squabs for market. Anyone with good stock and, giving as good care and feed ought to do as well.

Common causes of chilled eggs and dead squabs are fighting cocks, unmated birds, mice in the breeding quarters, and lack of vitality in the breeding stock.

In the purchase of breeding stock, the buyer should endeavor to secure young, vigorous, mated birds, free from disease and lice. He should secure all available information about the birds offered, and, if possible, a written guaranty.

Number of Females

Of the light, active breeds, such as the Leghorns and Minorcas, 1 male will be sufficient for a pen of 12 to 15 females under ordinary conditions.

In the case of the medium-sized fowls, such as the Plymouth Rocks and Wyandottes, 1 male should be provided for every 10 or 12 females.

With the heaviest breeds, like the Brahmas and Cochins, 1 male should not be mated with more than 10 females. Where 20 or 30 females are kept in one flock no better means of securing fertile eggs is known than to keep 2 male birds, allowing one of them to run with the hens one day and the other the next day, having a coop or extra pen in which to keep the one not with the hens.

Overcrowding

Overcrowding is the father of a peck of troubles.

Overcrowding makes overfat hens, and overfat hens lay soft shelled eggs and the egg eating habit follows. Overcrowded flocks will roost closely together at night and sweat, leaving them in a weakened condition resulting in sickness. Overcrowding also produces idlers. Idle hens become mischievous hens, and the disgusting vice of feather pulling is the result. Better results in both health and egg production come from flocks that have plenty of "elbow room."

Perches

The perches should be all on the same level in the warmest part of the pen away from drafts, and should be readily removable. If the perches are not all on the same level the fowls will fight for the opportunity to roost on the highest and the chances are that many fowls will be injured by falling off the perches.

The perches should be in the warmest part of the pen as they need the most protection from the cold during the night when the fowls are inactive. At this time the house is also usually colder than during the day. The perches should be easily removable to facilitate cleaning, disinfecting, and fighting mites. They should be so constructed that a disinfectant can be readily applied to all parts. They should be as simple as possible and made in such a way as to have the smallest number of cracks and crevices which offer hiding places for mites and other vermin.

As a general rule small hens should have about six inches of perch space while the larger hens should be allowed eight inches. In the winter they huddle closer together, but in the summer there should be plenty of room to allow them to spread out.

Perches should be twelve inches apart and not closer than fifteen inches to the wall or ceiling. Show birds, especially Leghorns, or similar types should be kept at a greater distance from walls and ceilings. Many good birds are spoiled by "brooming" their tails against the walls.

PRESERVING EGGS

Many people wish to preserve eggs for home consumption, and so a few methods are given which have proved sufficiently satisfactory to warrant the preservation of eggs for home use.

Eggs to be stored should be:

First, from hens that have no males running with them, because an infertile egg keeps longer, even without the use of a preservative, than a fertile egg; second, perfectly fresh, for not only will they keep much better, but if an egg which has begun to decay is placed in the same vessel with fresh ones it is likely to affect all the surrounding eggs, and, third, perfectly clean, for filth of any kind adhering to the shell will taint the preserving medium and thus taint the other eggs.

In placing eggs in the preservative be careful not to crack the shells. Keep them in a moderately cool room where the temperature may be kept fairly constant. A dry, clean cellar is a suitable place.

Water-glass.—Of the many methods which have been tried for preserving eggs on a small scale none has proved more successful than the use of water-glass (sodium silicate). This is a very cheap product that can usually be procured at not to exceed 50 cents a gallon, and 1 gallon will make enough solution to preserve 50 dozen eggs, so that the cost of material would not exceed 1 cent a dozen.

Pure water that has been boiled and then cooled should be used. To each 15 or 20 quarts of water 1 quart of water-glass should be added. The solution should be prepared, placed in the jar or other suitable vessel, and the fresh eggs added from time until the jar is filled, but be sure that there is 2 inches of the solution, covering the eggs. The eggs should not be washed before packing, for washing injures the keeping quality, probably by dissolving the mucilaginous coating.

Limewater.—A good limewater preservative may be made as follows: Thirty gallons of water, 10 pounds of salt, one-half bushel of finely slacked lime. After mixing thoroughly allow the solution to stand two or three days and then remove the clear liquid by dipping or by means of siphon. Place the liquid in a tub or other suitable receptacle and place the eggs therein, or the eggs may be placed in the vessel first and the limewater poured over them. Have about 2 inches above the eggs. Limed eggs can be discerned by the roughness of the shell.

Before boiling eggs which have been preserved in the foregoing ways, the shell should be punctured with a needle, otherwise it is apt to crack as soon as placed in hot water, owing to the pores being closed.

Salt and bran.—Eggs can be preserved for several months in dry salt. Have at least 2 inches above the upper layer of eggs.

Packing in bran has also been found satisfactory in many cases.

Cold storage.—This is undoubtedly the best and most practical method for preserving eggs in large quantities in a commercial way. As the processes by which a low temperature can be maintained for an indefinite period have become more and more improved the greater has been the number of eggs so stored, until the cold-storage business has reached such proportions that it has a considerable influence on the price of eggs, tending to lower it in the winter and raise it in summer.

Scratching Shed.—Questions are often asked as to the size of scratching sheds. A useful one to accommodate nine birds should measure not less than 10 ft. by 6 ft., and any height from 3 ft. upwards.

The shed may be made in five separate pieces, namely, one roof, which should be constructed of ¾-in. match-boarding, and covered with some good strong felt. It is better made 1 ft. wider than the shed itself, and about 4 in. longer, so that there are a couple of inches projecting over each end, about 3 in. over at the back, and the remaining 9 in. at the front, so as to keep the rain from beating in. The two ends should be made the same size, and should also be constructed of ¾-in. matchboarding, likewise the back, which should be about 18 in. less in height than the front. The latter should be constructed partly of wood and partly of wire netting; the bottom half should be boarded up to within 3 ft. or 4 ft. from the ground, and the remaining portion covered with 1 in. wire netting. A door should be made in one of the ends to allow admittance, and likewise a slot for the fowls.

The scratching shed should not have a wooden floor, but should stand upon the bare earth; it should be covered with some kind of litter, such as cut straw chaff, oat husks, peat moss, or dead leaves.

When feeding the birds on grain, scatter the food among the litter to provide them with exercise necessary to keep the birds in a healthy, active condition, and for the same purpose hang up any green food supplied to them, so that they have to reach or jump for it.

Setters and non-setters.—Most of the varieties of poultry come under light or heavy breeds, the former being considered non-setters, and among their ranks are the following:

Leghorns, Minorcas, Andalusians, Anconas, Campines, Redcaps, etc.; and the latter (heavy breeds) are considered setters, and under that heading are the following: Orpingtons, Rocks, Wyandottes, Brahmas, Cochins, Sussex, Rhode Island Reds, Faverolles, Dorkings, Langshangs, etc. The light breeds are all suitable for confined runs, and lay chiefly during the spring and summer time.

All of the heavy breeds are good winter layers, but when kept in confined runs, great care has to be taken to keep them active and from becoming over-fat and then not laying.

Things Necessary to Know About Incubators

Eggs for Hatching

The eggs intended to be incubated should be kept at a rather cool temperature, 50 degrees to 60 degrees Fahrenheit. It is not advisable to keep them longer than two weeks before being incubated, and the fresher they are when set the better the chances of a good hatch and strong chicks.

Only well-formed eggs with good strong shells should be set.

How Many Eggs for Setting

Number of Eggs to Hen.—This depends on the season, the size of the hen, and the size of the eggs. The usual number for an average-sized hen in the spring is 13. The same hen set in winter should not be given more than 11. After the middle of May she can take care of 15. It is better to give less than she can cover than to give more, 'for when too many are given most of the eggs, if not all, will be chilled at some period of the incubation.

Testing Eggs

Testing the Eggs.—Each sitting should be tested for the removal of the infertile eggs, which gives a better chance to those left. If there are many infertile ones, and several hens have been set on the same day, some of the hens may be reset. The eggs should be tested about the sixth or seventh day. Egg testers are sold by incubator manufacturers and by dealers in poultry supplies, or a homemade tester can be made in a few minutes from a small pasteboard or wooden box of such size and dimensions that a common hand lamp, a lantern, or a candle can be placed in it. A hole should be cut in the top directly over the flame and another a little smaller than an ordinary sized hen's egg in one side opposite the flame. The testing should be done in a dark room. If the pen in which the hens are set can not be made dark enough, it is best to test after dark. In testing, the light shining through the egg, held against the hole in the side of the box, shows the condition of the egg. An infertile egg is clear, while the fertile egg will show a spiderlike formation, a center with long, crooked threads, leading outward, and this formation will float as the egg is turned. The infertile eggs may be removed and used for cooking purposes.

Feed for Fattening

Fattening birds should always receive abundant soft feed. As they have no exercise they require a feed that can be quickly and easily digested. The following mixture is good: 100 pounds finely ground barley, 100 pounds finely ground corn, 100 pounds finely ground oats (with hulls sifted out), to which mixture is added 10 per cent of beef scraps. Buttermilk or skim milk is used for mixing, the former being preferred. A little salt is sometimes added. The birds are fed twice a day at intervals of twelve hours, and are crammed for about three weeks. It is important that the intervals between the feedings should be as nearly equal as possible.

Another ration may be made as follows: 100 pounds ground oats, 100 pounds ground corn, 50 pounds flour, 4 pounds tallow.

Green Bone

Fresh bones cut up in a bone cutter especially made for cutting bones to be fed fowls. Fresh cut green bone fed to laying hens confined in winter quarters will help the egg production, as it contains a large amount of protein needed to produce eggs in winter time in cold climates. Bone cutters are generally sold by all poultry supply houses and green bones for cutting may be purchased of any retail butcher.

Grit

Grit is essential to the health of fowls and to economy in feeding. Grit takes the place of teeth in preparing the food for further digestion and is required for the proper preparation of feed in the gizzard. When the feed is not properly taken care of in this organ an undue strain is thrown on the fowl's system, often resulting in disease, and also allowing much of the nutriment to pass through the bird's body without being absorbed. In every pen or yard a box of grit should be kept. Recent investigators have asserted that grit is a part of the necessary feed, giving the fowls strong bones and a bright plumage.

Cost of Feeding

How much does a hen eat?—This question is perhaps best answered by the statement that a hen eats as much as you feed her; but we can give the following statistics: The Maine experiment station, in the course of recent tests extending over a period of one year, found that a hen in this time consumed 90 pounds of grain and meal mixture, 40 pounds of oyster shell, 2.4 pounds of bone, 2 pounds of grit, 2.4 pounds of charcoal and 10 pounds of clover. These materials cost the station $1.45. This is about the average cost per hen for most poultry men, although we have known many experienced men who claim to have reduced the cost much below this. It is, perhaps, higher than the average farmer pays to feed his hens, but it is a fair estimate for those men who raise chickens as a business.

Artificial Hatching

Incubators.—There are several good incubators on the market, any one of which, if properly handled, will be found satisfactory.

More depends on the operator in most cases than on the incubator. In buying an incubator the order should be placed early without waiting until the purchaser wishes to begin operating it.

Spring is a busy time for the incubator companies, and it is often impossible for them, no matter how well equipped they may be, to fill an order the same day it is received. Again, shipments are often delayed by the transportation companies. It is also advisable for every beginner to have his machine some time before he desires to fill it with eggs, in order that he may become fully acquainted with its operations. A book of instructions accompanies every incubator, which makes it unnecessary to go into details here.

Probably the most common cause of failure with incubators is carelessness and neglect in attending to the machines.

Incubator Cellar

An ideal incubator cellar is a very valuable factor on a large poultry farm, or in case enough eggs are to be incubated each year to make it necessary to operate several machines. Otherwise, a clean, well-ventilated dwelling-house cellar, or other room, with proper precautions may be used.

If a cellar originally designed for other purposes is available it should be thoroughly cleaned. Good ventilation should be provided, and it may be obtained by opening the windows and placing a thin muslin curtain over each opening. There should be at least two windows arranged in this manner even when only one machine is operated.

In very cold weather the windows may be partly closed, especially on cold nights. When a cellar is not available, a room above ground may be used, but the best conditions for successful artificial incubation prevail in a room that is partly under ground. There it is easier to keep an even temperature and to retain moisture. If possible, incubators should be operated in a building used for no other purpose.

Location.—If a cellar is to be built especially for the incubators, a site should be chosen far enough from the other buildings to avoid great loss from fire in case of accident, but not so far away that it would be inconvenient to reach.

Sloping ground presents an ideal condition. The building may then be erected parallel to the slope, having one end of the incubator room in the slope almost entirely below ground, the other end coming out above ground, or nearly so, thereby making it possible to secure good air and drainage.

The Building.—A high ceiling is especially beneficial. A room ten feet high and with a distance of seven feet from the floor to the bottom of the windows is very satisfactory.

If properly placed, windows are not at all objectionable in an incubator cellar. If hinged at the bottom they may be allowed to drop part-way open and there be securely fastened by a small chain or strong cord. In this way the air passes over them and into the room, an arrangement that does not permit direct draughts to reach the incubators.

It is also advisable to place muslin curtains over the windows that are left open permanently, the other windows affording most of the light. The latter may be shaded in case the sun shines through on the incubator or affects the temperature of the room.

Money in Eggs and Poultry

MRS. BERRY IN "PROFITABLE POULTRY"

When contemplating going into a business of any description, the question naturally arises: Is there any money in it? And a thorough investigation is made with that one object in view.

Now, when we say that there is money in eggs and poultry, it is not an utterance from a phonograph, but backed by human intellect and experience. I do not make the assertion because some one else has told me, and thus believed it and thought there ought to be money in it; or figured it out on paper; but I positively know it to be a fact.

What other one thing is there such a demand for as poultry and eggs? In fact, the demand is so great that prices for eggs always range from 15 cents to 30 cents per dozen and in many localities as high as 60 cents. This in itself shows that a good flock of hens is as good as a U. S. mint.

How many a family is supplied with daily food and wearing apparel from a good bunch of poultry. If plenty of range can be had, the cost of feed is comparatively nothing, and all the income a profit.

There is money in a bunch of scrubs, or a mixed lot of chickens, but there is more money in a good flock of pure bred fowls; they will lay more eggs, and bring higher prices on the market, they thrive better and grow larger, and besides all this, how much prettier a flock of chickens all of one variety look than a bunch of mixed up birds, and how much more satisfactory they are. A great deal depends on the start.

Best Time to Go Into the Poultry Business

There is no time like the present to go into the poultry business. Just the sooner you get into it the better. Hard times will not affect it like other lines. There is always a good demand for poultry products and at a profit. The prices may vary a little and go up and down like all commodities; but it never gets so low that it is not profitable. So if you are contemplating entering the poultry business some time, act now and make the start at once. Remember now is the acceptable time.

Six Hundred Million Dollars

That sounds pretty big, don't it? Well, that is the size of the pile added to the nation's wealth by the poultry business last year.

Have you a part of it to jingle in your pockets, or for pin money? If not, then you are missing a good thing.

The poultry business offers better chances for more people of all classes and all conditions every place than any other line.

The poultry business cannot be overdone.

There may be a good many mistakes made in starting, but the conservative person who starts right and then goes ahead and plans his work along right lines and proceeds with care, knowledge, and judgment, will win out as thousands and thousands are doing.

Who Can Enter the Poultry Business?

There is no other business that will admit such a number of people, with a full assurance of success as that of poultry. They can come from all the walks of life, all vocations, all classes, all peoples and make the poultry business a profitable one.

As it is a very healthy business, much of the work being out of doors and the work not hard, thousands of broken down business men, clerks, worn out traveling men, railroad men, miners, tradesmen, machinists and professional men who are eking out a scanty existence in overcrowded professions are turning to this industry.

Thousands of maidenly inclined school teachers, shop ladies, dressmakers, factory and sweat shop women, lady clerks with overstrained nervous systems and their vocations becoming a burden to them and the profits only making them a scant living, could take up the raising of poultry with great advantages for bettering their conditions. In the work of poultry raising, they would be gaining in health, obtaining a good living and laying up something for the proverbial rainy day. A peculiarity of the poultry business is that it leads to great enthusiasm and it is very easy to acquire a great liking for it. Read such valuable books as this "Profitable Poultry." Subscribe for a few of the many poultry journals and you will readily succumb to an attack of the "chicken fever." It becomes very violent sometimes and we have seen persons who could not think or talk of anything but chickens. It shows that there is a great fascination for the work.

I wish to cite you one instance, although I could point out thousands of them. One right here in our own state. Mrs. D. C. Johnson, of Maxwell, Ia., left a widow at 24 years of age with three small children and practically no means of support; education limited and with no business knowledge, started in the chicken business and in a few years, by sheer force of grit, push and hard earned ability, learned the business, made a living, made money and in five years bought a 270-acre farm with a good payment down and in a few years later had it paid for.

Poultry Business Open to All

What would be the natural consequence of lessening the industrial and manufacturing business of the country? An overproduction of labor in all lines, which will lower the price and also throw many out of employment.

The poultry farmer is always sure of a good living; it will affect them much less than any other class. The farmers furnish the food for all classes, and as all must eat their products, which will always be in demand, perhaps not quite so high in hard times as in prosperous periods, but they will be the last to be affected. The farmers as a class have been making more money than any other.

The poultry raiser is strictly in it at all times; the supply is never too great.

The United States never produces enough eggs for the demand and imports great quantities from Canada every year. So there is no danger of overdoing the poultry business, especially in the production of eggs.

There is no business that affords greater opportunities to all classes than that of the poultry business. Take the great West, for instance, where many places in the new states and territories, eggs sell for from 30 to 60 cents per dozen. There is no business that can be started with so little capital as that of poultry, and it is open to all.

It is a business that is easily learned and readily picked up by any one with common intelligence. It does not require long apprenticeship or years of study. Just go at it and not too fast at first, and you cannot help but succeed.

There are opportunities for raising poultry everywhere; better near a town or city where a good steady market can be had for good poultry and fresh eggs. Young men just starting out in business, investigate this great enterprise. Small or unsuccessful farmer, look into this matter. Discouraged tradesman and laid off workman, it will pay you to investigate the great possibilities of the poultry business. It will put new life in you—new hope, and make life a thing of joy and happiness. It is open to all classes and conditions of people everywhere.

Poultry Business for Physically Disabled People

On account of the poultry business being light work it is especially adapted to persons that are physically unable to do hard manual labor or perform hard, strenuous mental strains as the active business man is forced to do.

I do not want to lead you to think that the poultry business is all play and requires little or no work with hands or brain, but will say that it requires very close watching of small details and constant work—not hard work but constant light duties that because of their interest and fascination become a pleasure and the change usually has a very beneficial effect upon most people that are broken down in health and take up the chicken business.

And especially it is a beneficial change for those suffering mental disability, nervousness and the change of life of women, as the chicken business is highly fascinating, so much so that the "Chicken Fever" is very easy to catch and is one of the best things a person can have. It is good for health, pleasure, and profit; you forget your ailments in the fascination of the work.

Insect Pests Create Annoyance With Fowls

Insect Pests

Two classes of external parasites, popularly known as lice and mites, will be considered here. There are several varieties of lice which attack poultry. The subsist mainly on the feathers and perhaps on the epidermic scales.

They are found largely on the head and neck, under the wings and about the vent, and when present in large numbers they cause the fowls much discomfort. Persian insect powder (pyrethrum), powdered sulphur, and some of the various preparations on the market, such as the louse powders, are good in combating these pests.

The hens can be dusted with one of these powders after they have gone to roost. Have the powder in a box with a perforated cover, grasp the fowl by the legs and shake the powder well among the feathers.

Dust at least three times at intervals of about a week in order to catch the lice which hatch out after the first dusting.

The mites subsist on the blood of the fowls and are not usually found on the bodies of the bird except when at roost or on the nest. During the day they inhabit the cracks and crevices of the walls, roosts and nests.

Setting hens are often so annoyed that they are compelled to leave the nests in order to relieve themselves of these parasites.

The free use of kerosene about the nests and perches is useful in fighting mites. The walls of the house may be sprayed with kerosene, the operation being repeated every three or four days for two weeks.

Insect powders are of little avail. The following method has proved excellent in ridding houses of mites and lice when the weather conditions are such as to permit the birds being kept outside the house for five or six hours:

Close all the doors and windows and see that there are no cracks or any other openings to admit air.

Get an iron vessel and set it on the gravel or sand near the center of the house; place in the vessel a handful of shavings or straw saturated with kerosene, and on these sprinkle sulphur at the rate of about one pound to every 90 or 100 square feet of floor space. Instead of using the shavings and kerosene the sulphur can be saturated with wood alcohol. When everything else is in readiness light the material and hastily leave the house. In case any anxiety is felt about fire, a glance through a window will show whether everything is all right.

There is very little danger of fire when proper precautions have been taken to have plenty of soil beneath the vessel.

Allow the house to remain closed for three or four hours, at the end of which time one can safely conclude that there are no living beings inside.

Now throw all the doors and windows wide open so as to drive out the sulphur fumes thoroughly, and then the fowls may be allowed to enter. Let them in one by one, and as each enters catch it and dust it well with insect powder, which will destroy the lice on the birds.

Tobacco dust is also good to use instead of insect powder. The birds and house have now been freed from vermin for the present, but the eggs of the insects have not been destroyed, and in a week another swarm will be hatched out. Therefore it will be necessary to repeat the operation once or twice before the pests are exterminated. After this care should be used to see that no strange fowl is admitted to the house or yard without having been thoroughly rid of lice, for one lousy hen will contaminate all the rest.

Intestinal worms.—Worms are frequently present in the intestines and ceca of chickens, particularly young chicks, often causing considerable loss. Practically the only way to determine that worms are present is to examine the ceca and intestines of dead chicks. The worms are small and hairlike. Occasionally flat tape worms are found, but these are not very common. Chicks infested with worms go off feed and become thin and sickly looking.

In combating worms care should be taken to keep clean the soil over which the chicks run, and to move the runs each year or two if possible. Cleanliness in the house must also be observed. In treating affected birds, powdered areca nut (20 or 40 grains per fowl), administered either in mash or mixed with butter and made into pills, is an effective remedy. Powdered male fern (30 grains to 1 dram), or oil of turpentine (1 to 3 teaspoonfuls), alone or diluted, with an equal bulk of olive oil, is also very good. It is well to follow any of these remedies with a dose of castor oil (1 to 3 teaspoonfuls.)

Mash Feeding

It is the practice of a large percentage of the most successful poultrymen to feed a part of the daily grain ration ground. Most of them feed the ground grain moistened with either milk or water, although some feed it dry. A fowl's gizzard is capable of grinding all kinds of grain, but it is generally considered to be more economical to have a part of the grinding done by steam or water power. The soft-feed idea, however, must not be overworked. A beginner often reasons that it is cheaper for the miller than for the fowl to grind the grain;

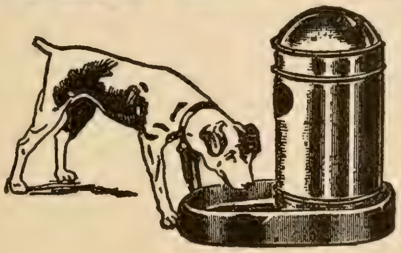
MOE'S SANITARY CONVENIENCES

REMOVE COVER AND FILL FROM TOP
MOE'S SANITARY DRINKING FOUNTAIN

REPLACE COVER AND YOU HAVE A CONTINUOUS SUPPY OF PURE WATER
MOE'S SANITARY HOG DRINKING FOUNTAIN

WHEN FILLED SUPPLIES JUST THE RIGHT AMOUNT OF PURE WATER FOR YOUR STOCK
MOE'S SANITARY UTILITY STOCK FOUNTAIN

WHEN FILLED WILL ACCOMMODATE 10 TO 12 BIRDS AT ONE TIME
Patent Pending
MOE'S ROUND FEED SAVING HOPPER



MOE'S SANITARY CAT and DOG FOUNTAIN

Observe Quietude Among Fowls

but the powerful muscles of the gizzard are there to be used, and experience has shown that the balance of power of functions in the fowl's economy makes the vigorous exercise of the gizzard beneficial. When feeding moistened ground feed have it a comparatively dry, crumbly mash, and not a thin slop. Give what they will eat readily in 15 to 20 minutes.

Marketing

Marketing poultry and poultry products.—A large part of the profit in poultry keeping often depends on the marketing of the products, and the producer should study the market demands as to how, where, and when to dispose of the products to the best advantage.

An attractive appearance is of prime importance, and the producer should study the details of killing, dressing, and packing in order to arrange the products in the best possible manner.

The requirements for dressing and packing vary somewhat in different markets, and the producer should learn any special requirements of the market to which he intends shipping.

Milk

When properly fed, milk makes an excellent feed for poultry. In feeding sour milk or buttermilk, however, the feeder must exercise care not to give too much or bowel trouble will likely result.

Skimmed milk is an economical feed. In skimming, the most valuable food constituents—the nitrogenous substances—are left in the skimmed milk. Not only does this skimmed milk contain much nutritive material, but it contains it in a form which, as a rule, is easily digested.

Skimmed milk may often be advantageously substituted in part for meat. Milk may be used in mixing the soft feed, or it may be given the fowls to drink in addition to water.

Molting

Molting.—Where a specialty is made of producing winter eggs it is important that the hens shed their feathers early, so that the new plumage will be grown before cold weather begins. Henry Van Dreser has proposed a way by which it is possible to cause a flock of fowls to pass through the molting period early and uniformly. This method consists in withholding part of the feed for about two weeks, which stops egg production and reduces the weight of the fowls, and then feeding heavily on a ration suitable for the formation of the feathers and the general building up of the system. This method was tried at the West Virginia Experiment Station with good results. The hens molted more rapidly and with more uniformity, entering winter in better condition than similar fowls fed continually during the molting period on an egg-producing ration. Whether this method is employed or not, the fowls should receive a more nitrogenous ration than the one ordinarily fed. The addition of a little linseed meal during the molting period will aid in the production of a new coat of feathers. An increase in the amount of animal feed will also be beneficial.

Soft Shelled Eggs

The cause may be either too much fatness, diseased egg-producing organs, or lack of shell making material. If the first be the cause, the remedy would be to reduce the fatness by giving less food or food of a less fattening character, with plenty of exercise; if the second, little can be done; though a promotion of the general health through plenty of exercise, fresh air and correct feeding might restore the diseased organs to a normal condition; if the third, the providing of plenty of good sharp grit and an abundance of ground oyster shells would doubtless be sufficient to cause the hen to lay eggs with proper shells.

Hens will occasionally lay one or two soft-shelled eggs when they appear to be in good laying condition and properly fed, while the rest of their product will be normal. In such cases there is no occasion for alarm. But if the practice continues one should promptly set to work to ascertain the cause and provide appropriate remedy.

Sprouted Oats

Oats can be sprouted in shallow wooden boxes, with sides, about 3 in. to 5 in. deep, such as used by nurserymen for seedings, the chief factors for their growth being sufficient but not too much moisture, together with light and warmth. In summer there is no difficulty about the latter points, but in winter either a greenhouse, corner of the kitchen, scullery, or warm outhouse are necessary for obtaining sufficient heat for rapid sprouting.

The oats should be spread thickly over the bottom of the box, and at first watered freely so that they become thoroughly soaked, and as sprouting progresses see that just sufficient moisture is supplied to keep them growing, but not to rot the roots.

A little experience will soon tell the amount of oats which yield the best results. To keep up continuity of supply a fresh planting should be made about every three days, and the sprouted oats fed to the chickens or fowls when they are from 4 in. to 6 in. high. A sod of these cut out are a rare treat to poultry when other green food is scarce.

If preferred, the oats, before spreading in boxes can be thoroughly soaked in a tub of water, and this where they are kept within doors will do away with the attendant mess of at first watering the boxes freely.

Taming Fowls

Fowls to produce well must be kept tame. At feeding time, when the birds are hungry, and you have from one to five minutes time that can be spared, sit or kneel down at the usual feeding place with the bucket of feed and throw out a little of the feed near you, gradually shortening the distance from day to day. In this way the birds may be made to approach rather close, and after a few trials they will usually eat from one's hand.

Gentleness at all times must be observed if good results are to be obtained. Laying fowls, like bees, sting when disturbed by quick motions or otherwise, the only difference being that the sting is in the pocketbook.

Avoid hasty passing by windows or openings of poultry houses and do not enter suddenly. Sometimes it is well to rap on the door to draw the bird's attention, so that they will not be taken by surprise and pile into a corner or try to get out by way of the roof.

When walking among the birds, do so with a slow, deliberate step. It is also a good practice to call the birds to their feed with a low whistle and to use this same whistle when entering the pen, or when the birds are disturbed in any way.

Telling the sex. — In some breeds, especially the American and Asiatic varieties, it is often difficult to tell the sex of the young stock, particularly when of the age of three or four months. Usually the head is broader and the tail more stumpy in males than in females. But this rule does not always hold good, as pullets quite frequently have the outward markings of cockerels. When all other signs fail, the expert distinguishes the sex by the sound of the voice of the chicken when caught—that of the male being coarse and more harsh than that of the female.

Ventilation

Ventilation.—The ventilation of a poultry house is very important. A house with tight walls, roof and floor and an open front, will contain cold, dry and pure air, three essentials for the health of the fowls in winter. With such a construction there will be no draughts but plenty of fresh air.

Size of poultry house.—In determining the size of a house, consider the number of fowls that are to be kept in one pen. As a rule, fowls are too crowded for economical production.

A flock of fifty hens should usually be allowed about five square feet of floor space per hen. Where the attendant is careful to keep the house clean and the floor heavily littered with straw, less floor space will be necessary. As a rule, it is far better to allow too much floor space rather than too little. The larger the pen, the less floor space will be required per hen. One hundred hens will thrive in a pen 20x20 feet, that is, four square feet of floor space per hen, but one hen will not thrive in a pen 2x2 feet. In a large pen, each one has a chance to wander about over the entire floor space, thus getting more exercise.

FOR LAWNS
FOR MEADOWS

GRASSES

FOR PASTURES
FOR HAY

Grass That Will Survive in Shade and Steep Side Hills

Amount Required Per Acre. Adapted to Various Locations. Average Price Which May Vary in Different Seasons in Different Regions.

Canada Blue. Has a flatter and a more wiry stem than the Kentucky grass, also bluer color. Used in the cheap mixtures as a substitute. Useful throughout the East and North, including Canada, on dry sand or clay. Seed weighs 14 pounds per bushel. Takes 3 bushels per acre. Worth $25 per 100 pounds.

Creeping Bent. Forms strong turf; grows rapidly; improved by heavy rolling. Favorable for low-lying inland and dry valleys of the Eastern States. Sow three bushels to the acre. Price $40 per 100 pounds.

Crested Dog's Tail. Valuable for shady places, and under trees. Also for terraces on deep soil. Has the same color of Kentucky blue grass. Mixes well with that and is a good bottom grass, but not recommended alone. Prefers rich, moist soil. Is among the best lawn grasses which require close cutting and an ability to resist tramping, as in golf links, croquet lawns, tennis courts, etc. Takes one bushel of 30 pounds per acre. Worth $40 per 100 pounds.

English Rye. Makes good verdure in four weeks. Dies out in two or three years. Valuable for quick effects in the Middle and Eastern States. Requires 2 bushels to the acre. Worth $9 per 100 pounds. Weight of bushel is 28 pounds.

Italian Rye. Very rapid grower and valuable for short, quick effects. Is practically an annual. Use very thickly in mixture, as far South as Jacksonville, Florida. Seed weighs 22 pounds per bushel. Worth $9.50 per 100 pounds.

Kentucky Blue Grass. Starts early, lasts till frost, fine texture, rich green color, smooth even growth. Three years to establish. Dislikes some soils. Seed weighs 14 pounds to the bushel. Takes 3 bushels to the acre. Worth $35 per 100 pounds.

Red Top. Stands hot weather and rough usage. Adapted to regions north of Tennessee. Fills in well with blue grass. Takes from 4 to 6 bushels per acre. Worth $28 per 100 pounds.

Rhode Island Bent, favorable to use on sandy seasides. Makes a close, fine turf in color, very green. Price per 100 pounds $40.

Sheep's Fescue. Useful in mixtures for the Northwest and for lands on poorest sands. This is a "bunch" or "stool grass" with very fine foliage and dense dwarf growth for any uplands. Seed weighs 16 pounds to the bushel and takes 2 bushels to the acre. Worth $30 per 100 pounds.

Slender Fescue. Has a finer leaf than Sheep's Fescue and stools like that. Recommended only in special situations. Dry slopes, on lawns, or on dry, high situations. Takes 1½ bushels per acre, weighs 22 pounds per bushel. Worth $40 per 100 pounds.

Wood Meadow. Very hardy and early, resisting heat. Best grass for very shady places in woodland parks. Takes 1½ bushels per acre. Weighs 19 pounds per bushel and is worth $50.00 per 100 pounds.

Best Farm Grasses for All Purposes

Weight per bushel. Amount required per acre. Where necessary to use. Price of seed liable to vary according to season and locality.

Brome Grass. Suitable for upland soils in the Northwest. Makes good hay first two years. Seed weighs 14 pounds to the bushel. Requires 20 pounds per acre. Makes good pasturage. Seed worth $18 per 100 pounds.

Canada Blue Grass. Makes good hay on Northern sandy soils. Leaves a coarse stubble. Requires 42 pounds seed to the acre. Weighs 14 pounds to the bushel and costs but 15 cents a pound in lots of 100 pounds. Look up price in feed stores. It is worth probably more.

Crested Dog's Tail. Good for hard dry soils and sheep pastures. Seed weighs 21 pounds per bushel. Takes 50 pounds per acre. Costs 30 cents per bushel for 100 pounds.

English Rye Grass. Well liked by stock. Highly prized for hay in Europe. Seed weighs 25 pounds per bushel. Takes 50 pounds per acre. Costs 9 cents a pound per 100 pounds.

Foxtail Millet. Makes good hay. Suitable for soiling; common type is earliest. Hungarian medium, German, latest and best yielder. Seed weighs 50 pounds per bushel. Use 12½ pounds per acre.

Italian Rye Grass. Useful, self-feeding, annual, but little known in the East. Requires 50 pounds seed to the acre. Weighs 20 pounds per bushel. Makes excellent hay. Seed costs $9.20 per 100 pounds.

Japanese Millet. An annual suitable for hay in the South and West, on wet soils. Requires 15 pounds per acre. Costs 7 cents per pound, per hundred pounds. Price varying, of course, in different seasons.

Kentucky Blue Grass. Standard pasture for humid U. S. and limestone soils. Seed weighs 14 pounds per bushel. Acre requires 40 pounds seed, costing 18 cents a pound per 100 pounds.

Meadow Foxtail. Sow early on moist soil 7 pounds to the acre. Mixed with other grasses. It is not usually sown alone as it does not reach maturity till the second or third year. Weighs 32 pounds to the bushel. Is suitable for either hay or pasturage. Requires 25 pounds per acre. Price $40 per 100 pounds.

Orchard Grass. A hardy grass, which is best when cut young. Good in mixtures. Requires 40 pounds to the acre. Seed weighs 18 pounds to the bushel and costs 22 cents a pound per 100 pounds.

Redtop, Burdens Grass. Suitable for pasture on soils too wet for timothy. Requires 32 pounds per acre if used alone, or 15 pounds as a mixture. Weighs 32 pounds to the bushel. Costs $18 per 100 pounds.

Timothy, Herd's Grass. Makes the standard hay in the North Atlantic States. Takes 35 pounds seed to the acre. Weighs 45 pounds to the bushel. Costs 9 cents per pound, per 100 pounds, according to the price given in "Garden and Farm Almanac." The price is much higher probably, as will be learned at the seed stores.

Wood Meadow Grass. Good for moist shady soils. Better for lawn than field use. Requires 28 pounds seed to the acre. Weighs 14 pounds to the bushel and costs 50 cents per pound in 100 pound quantities.

The Clover Grasses

Clover, Alfalfa or Lucerne. Adapted to use of cattle, horses and hogs. Adapted to hay and pasture, perennial. (See elsewhere for description of Alfalfa.)

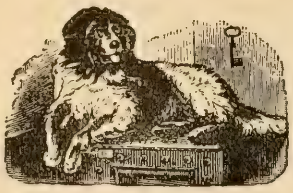
Clover. Red; adapted to all live stock; plowed under makes the best green manure known.

Clover. Alsike grows 2 to 3 feet tall. Can have 2 to 4 cuttings per year; adapted to Northern and Middle States; requires a good clay loam; takes from 5 to 7 pounds seed to the acre.

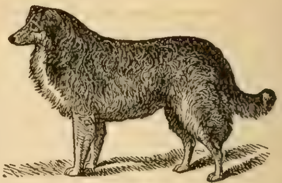
Clover. White; a perennial, fine for pasturing and makes the best plant known for bees.

DOGS, IN EUROPE AND AMERICA.

DIFFERENT BREEDS.

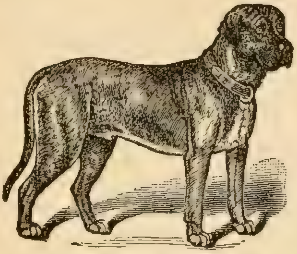


Bloodhound,
Hounds, Mastiff, Newfoundland,
Collie, and St. Bernard
DOGS;
Including Retriever, Pointer, Setter,
and other Dogs.



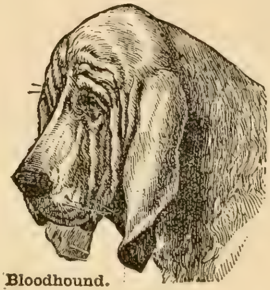
Colley Dog.

The Colley, an English sheep dog, origin unknown, is highly intelligent through many generations of special training.



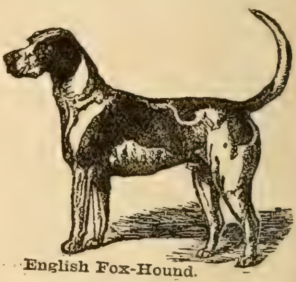
English Mastiff.

The English Mastiff has descended far away back, according to some authorities, from a bull dog ancestry.



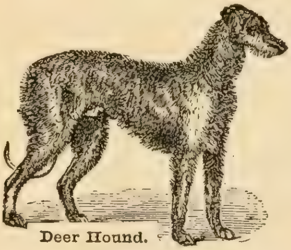
Bloodhound.

The Bloodhound receives its name from certainty with which he follows any animal after smelling of its blood.



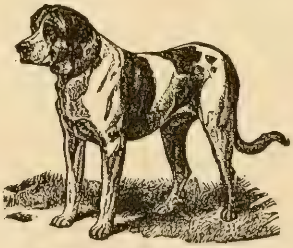
English Fox-Hound.

The English Fox-Hound, a smooth, handsome dog, has extremely keen scent, great speed and strength of wind.



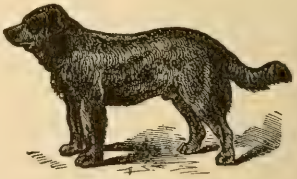
Deer Hound.

The Deer Hound, a native of Scotland, large, graceful, formerly of great service in hunting deer.



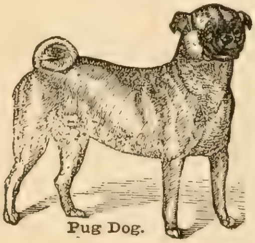
Smooth St. Bernard Dog.

The Smooth St. Bernard exhibits great energy and sagacity. There are two species, rough and smooth coated.



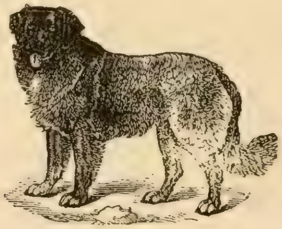
Newfoundland Dog.

The Newfoundland is a native of the Isle of that name. Large, black, and of docile disposition.



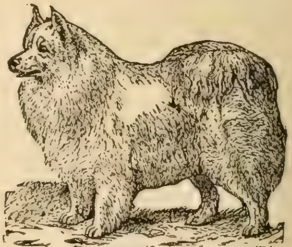
Pug Dog.

The Pug is of uncertain origin, but the pure breeds have always stood high among dog fanciers.



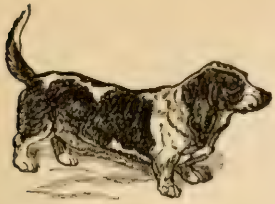
Rough St. Bernard Dog.

The Rough St. Bernard has wide reputation as saver of lost travelers on the Swiss Alps.



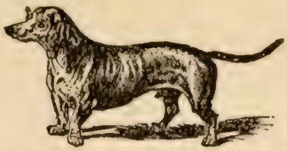
Pomeranian Dog.

The Pomeranian, or Spitz Dog, is an importation from Pomerania, in Prussia, and now bred in America,



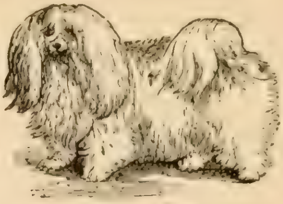
Basset Hound.

The Bassett Hound, originally from France, long ears, smooth coated, short legs, waddling gait, hair glossy.



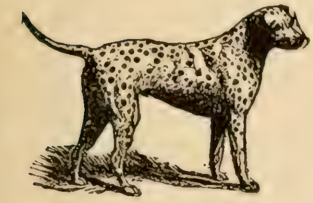
Dachshund.

The Dachshund, or German Badger Dog, originated in Central Europe. Has long body and short, crooked legs.



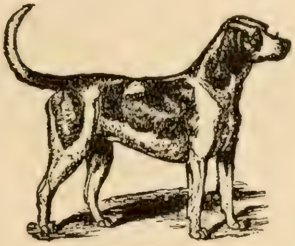
Maltese Dog.

The Maltese Dog has long silky hair, slightly wavy but not curly.



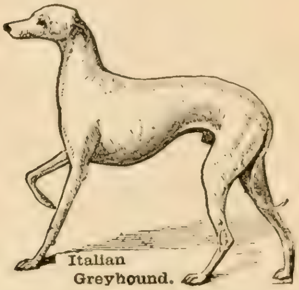
Dalmatian Dog.

The Delmatian, a Spotted Dog, is a native of Delmatia, in Austria. An excellent coach dog.



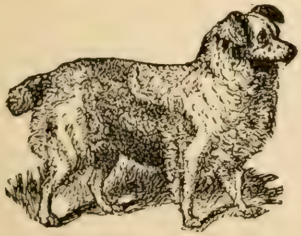
Harrier Dog.

The Harrier, an English dog, somewhat resembling the Fox Hound, his principal vocation being to hunt hares.



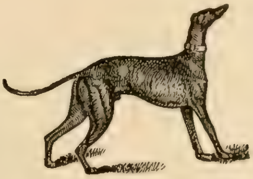
Italian Greyhound.

The Italian Greyhound is a delicate, small dog, valued principally as a drawing-room pet.



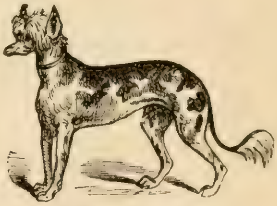
Truffle Dog.

The Truffle Dog is an English breed, cultivated originally to find and dig a vegetable known as Truffle.



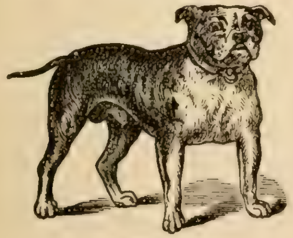
Greyhound.

The Greyhound, is formed on the principle of the thoroughbred race horse, slender legs, quick action.



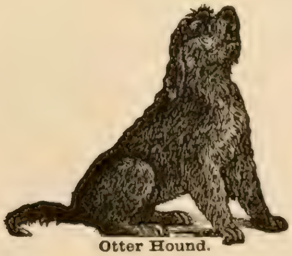
Chinese Crested Dog.

The Chinese Crested Dog, China, has no hair on body and resembles the Greyhound in form.



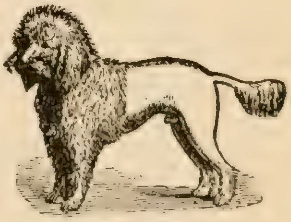
Bulldog.

The Bulldog originated in England several centuries ago when bullbaiting was one of the popular amusements.



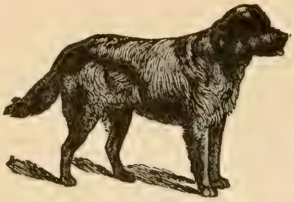
Otter Hound.

The Otter Hound, an English sporting dog, of service in protecting fish ponds from depredation by otters.



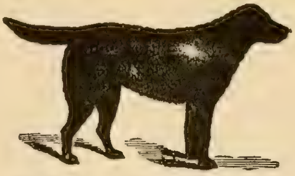
Poodle Dog.

The Poodle was originally a Water Spaniel in the lowlands of Europe. Draining the land changed its nature.



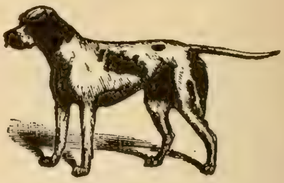
Wavy-Coated Retriever.

The Wavy-Coated Retriever is supposed to be a cross between the Small Newfoundland and the Setter.



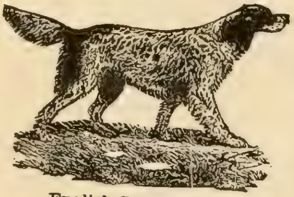
Black Wavy-Coated Retriever.

The Black Coated Retriever, extensively bred in England, is a union of the small Newfoundland and water spaniel.



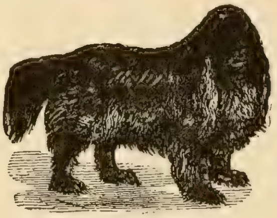
Pointer Dog.

The Pointer, an English hunting dog. Two breeds, two colors, liver and white, lemon and white.



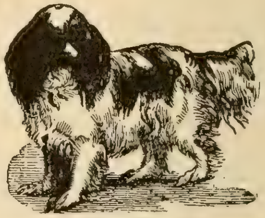
English Setter Dog.

The English Setter, a superior hunting breed, dates back to 1780, but has been greatly improved since 1825.



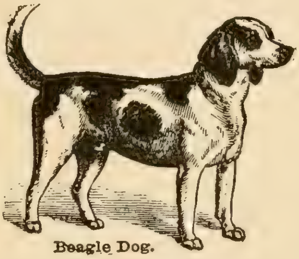
King Charles Spaniel.

The King Charles Spaniel derives its name from Charles II, England. Intelligent and pleasant in disposition.



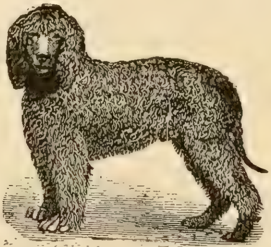
Blenheim Spaniel.

The Blenheim Spaniel receives the name from the Marlborough family of England. In form resembles the King Charles.



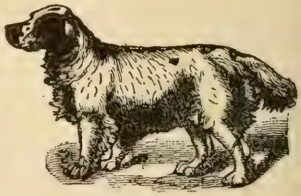
Beagle Dog.

The Beagle, English hunting dog, is kept in packs by Englishmen for hunting rabbits and hares.



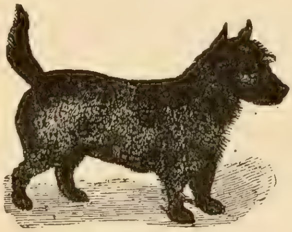
Irish Water Spaniel.

The Irish Water Spaniel, native of Ireland, learns easily, is plucky, companionable, obedient and highly intelligent.



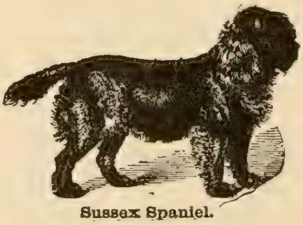
Clumber Spaniel.

The Clumber Spaniel takes his name from the home of the Duke of New Castle, in Nottinghamshire, England.



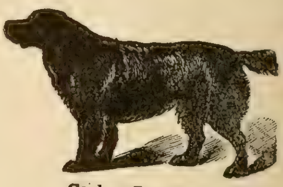
Scotch Terrier.

The Scotch Terrier, small, rough dog, native of Scotland. Courageous, docile and valuable as a vermin hunter.



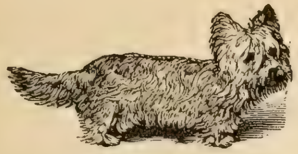
Sussex Spaniel.

The Sussex Spaniel, English, dates back to 1772 and belongs to the same family as the Clumber.



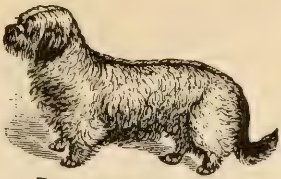
Cocker Spaniel.

The Cocker Spaniel is an English species, popular because active, faithful and enthusiastic in the hunting field.



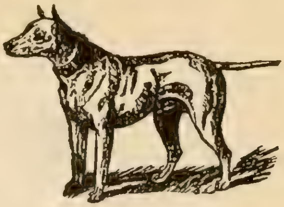
Prick-Ear Skye Terrier.

The Prick-Ear Skye Terrier is a variety of the native dog of the Isle of Skye, Scotland.



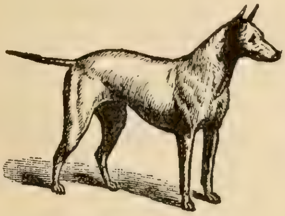
Drop-Ear Skye Terrier.

The Drop-Ear Skye Terrier is the name of the old English Yorkshire Terrier. Superior for rats and rabbits.



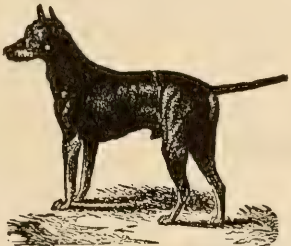
Bull-Terrier.

The Bull-Terrier, a handsome, symmetrical dog, active and vivacious, is a compound of Terrier and Hound.



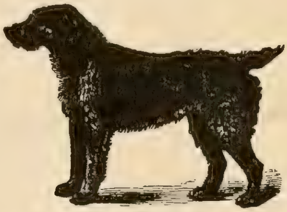
White English Terrier.

The White English Terrier differs from the black and tan only in color. Is affectionate, lively and tractable.



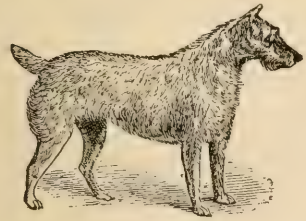
Black-and-Tan Terrier.

The Black-and-Tan Terrier, English bred originally, has keen scent for hunting and destroying rats.



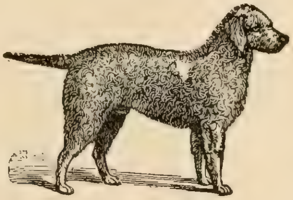
Airedale Terrier.

This as a truly sporting breed of English origin and highly popular in America. Philadelphia is quite a stronghold of this breed.



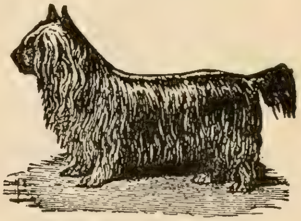
Irish Terrier.

The Irish Terrier, native of Ireland, is a fine sporting dog, active, companionable and a good house dog.



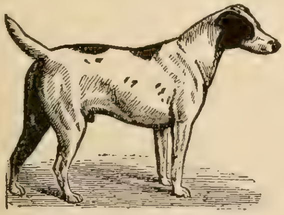
Bedlington Terrier.

The Bedlington Terrier, dating back to 1825, comes from Bedlington, England. Weighs from 16 to 25 pounds.



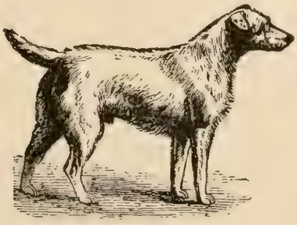
Yorkshire Terrier.

The Yorkshire Terrier, named from Yorkshire, England, where it originated. It is a parlor pet with long silky hair.



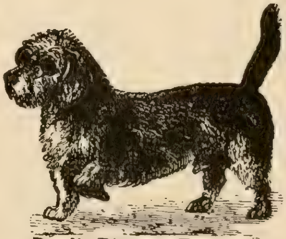
Smooth Fox-Terrier.

The Smooth Fox-Terrier is the outgrowth of old time Terriers used in hunting foxes in England.



Rough Fox-Terrier.

The Rough Fox-Terrier, an irregular breed, and so named in opposition to the Smooth Fox Terrier.

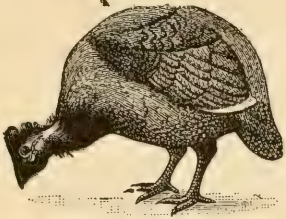


Dandie Dinmont Terrier.

The Dandy Dinmot Terrier, a Scotch dog, is supposed to be a cross with the German Dachshund.

DOMESTIC PETS, INCLUDING PIGEONS, SWAN, GUINEA FOWL, PARROT, AND CATS.

The Pea-Fowl



Guinea-Fowl.

The Guinea Fowl is found wild in Africa.

Guinea-Pig.

The Guinea-Pig is a native of South America and esteemed for beauty and gentle disposition.

The Pea-Fowl, native of India, belongs to the Pheasant family.

Angora Cat.

The Angora Cat, English, belongs to the long-haired class.

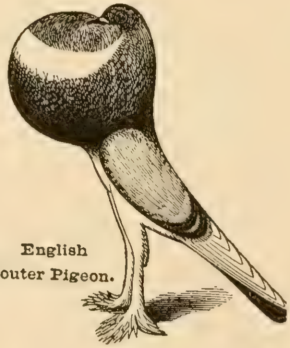
Persian Cat.

Leghorn Runt Pigeon.

The Leghorn Runt is said to have originated on the shores of the Mediterranean.

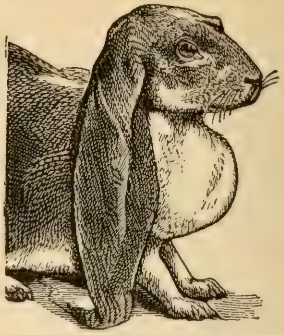
Gray (Talking) Parrot.

The Gray Parrot is a cage pet, found on the western coast of Africa, whence it is imported. Remarkable as a good talker and for its longevity.



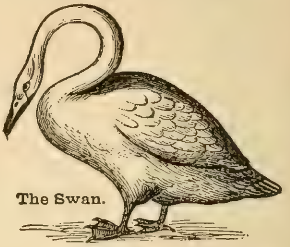
English Pouter Pigeon.

The English Pouter, remarkable for swelling its crop.



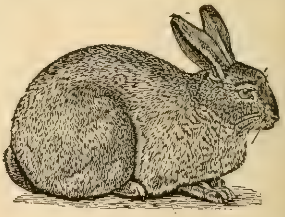
Lop-Eared Rabbit.

The Lop-Eared Rabbit is the most remarkable of its species, possessing very bright colors and ears measuring from 22 to 23 inches long.



The Swan.

The Swan belongs to the duck family.



Silver-Gray Rabbit.

The Silver-Gray Rabbit ranks next to the lop-eared in value. Imported into England from other countries.

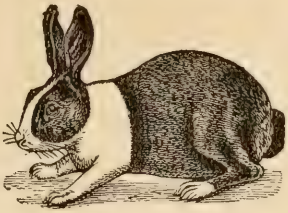
Brown Tabby-Cat.

The Brown Tabby is a favorite domestic animal.

DOMESTIC PETS, COMPRISING VARIOUS KINDS OF RABBITS AND PIGEONS.

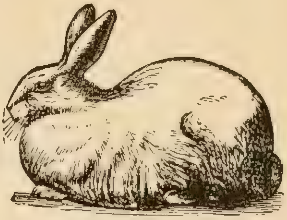
Himalayan Rabbit.

The Himalayan Rabbit is silver-gray in color, but whether originated in Himalaya is not known.



Dutch Rabbit.

The Dutch Rabbit, laying claim to great beauty, has been cultivated for many years in France.



Angora Rabbit.

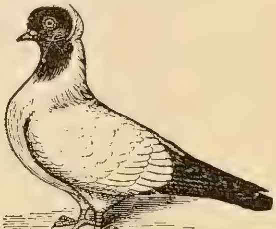
The Angora Rabbit takes its name from its resemblance to the Angora goat in having long hair.

Trumpeter Pigeon.

The Trumpeter Pigeon, which is quite common in Europe, derives its name from the peculiar sound of its voice.

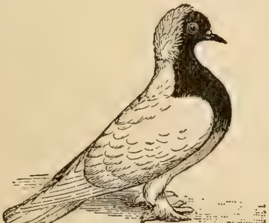
Belgian Hare Rabbit.

The Belgian Hare, a native of Belgium and adjacent countries, was originally imported into England for food.



Nun Pigeon.

The Nun Pigeon, from its marked contrasts in colors, has always held high place among fancy pigeons.

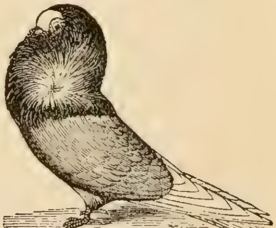


Latz Pigeon.

The Latz Pigeon is so-called from the appearance of a latz bodice in color, covering its form.

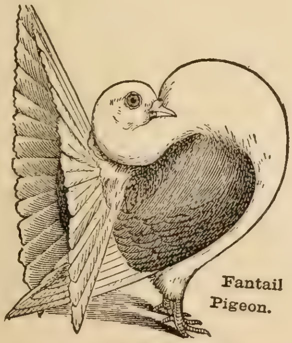
The Pheasant.

The Pheasant, an ornamental bird, cultivated for its beauty, is a prolific layer and good mother.



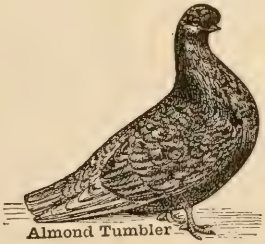
Jacobin Pigeon.

The Jacobin, so named because feathers in the back of its head resemble the head of a monk.



Fantail Pigeon.

The Fantail has been cultivated in India for 200 years.



Almond Tumbler

The Tumbler receives its name from its natural propensity to turning over in its flight.

English Carrier Pigeon.

The English Carrier, king of pigeons, said to have originally come from Persia.

PROFITABLE
PLEASANT INDUSTRY

BEE KEEPING

REQUIRES CARE
AND ATTENTION

Full Particulars as to How to Conduct the Business

Apiculture, or bee-keeping, is one of the oldest of all human industries. In the earliest ages the honey of the wild bee was highly esteemed as food. A land "flowing with milk and honey" was regarded as an earthly paradise. Treatises on the bee and its management were written long before the Christian era, and all down the centuries many men have been occupied with profit in bee-keeping. Modern improvements in hives and in methods of management have reduced the business to a science, and with the introduction of foreign bees, especially the Italian bee, into the United States, bee culture is now fully recognized as a profitable industry.

It may be safely said that any place where farming, gardening, or fruit raising can be successfully followed is adapted to the profitable keeping of bees—in a limited way at least, if not extensively. Many of these localities will support extensive apiaries.

This pursuit may also be followed in or near towns and, to a limited extent, in large cities. It even happens in some instances that bees in cities or towns find more abundant pasturage than in country locations which are considered fair. Thus, bees thrive in the city of Washington on account of the excellent bee pasturage in the numerous gardens and parks and the nectar-yielding shade trees, including the linden or basswood, along the streets. A prosperous apiary has been kept on the roof of a business house in the heart of New York City, another on the roof of a store in Cincinnati, and similar experiments in other cities have given satisfactory results in yield of honey.

It is evident, therefore, that no one need be deterred by his locality from keeping bees, provided the nectar-yielding trees and plants of the range are of the right sort and abundant. Moreover, regions so rough and sterile or so swampy as to give no encouragement to the agriculturist, or even to the stock raiser, will often yield a good income to the bee-keeper, insignificant and apparently worthless herbs and shrubs furnishing forage for the bees.

The ability of the bees to range over areas inaccessible to other farm stock and to draw their sustenance from dense forests when the timber is of the right kind, and the freedom which, because of their nature, must be accorded them to pasture on whatever natural sources are within their range of 3 or 4 miles, must be taken into account in estimating the possibilities of a locality.

Profits of the Business

Bee-keeping is an occupation extremely fascinating to most people who have a taste for the study of nature, but the income to be derived from it when rightly followed is a consideration which generally has some weight, and is often the chief factor in leading one to undertake the care of bees. Of course, where large apiaries are planned, the prime object is the material profit, for they require much hard labor and great watchfulness.

Apiculture, like all other branches of agriculture, depends largely upon the natural resources of the location, and the special conditions of any particular season, no matter how skillful the management, may make great differences in the year's return. The knowledge, skill, industry, and promptness of the one who undertakes the care of the apiary have likewise much to do with the return. Furthermore, profits are of course largely affected by the nature and proximity of the markets.

A moderate estimate for a fairly good locality in an average season would be 35 to 40 pounds of extracted honey or 25 pounds of comb honey per hive or colony.

When two or more of the important honey-yielding plants are present in abundance and are fairly supplemented by minor miscellaneous honey plants the locality may be considered excellent, and an expectation of realization more than the yield mentioned above may be entertained.

With extracted honey of good quality at the wholesale price of 6 to 8 cents per pound and comb honey at 12 to 14 cents, each hive should under favorable circumstances give a gross annual return of $2.50 to $3. From this about one-third is to be deducted to cover expenses other than the item of labor. These will include the purchase of comb foundation and sections, repairs, eventual replacing of hives and implements, and the interest on the capital invested.

By locating in some section particularly favorable to apiculture—that is, near large linden forests, with clover fields within range, supplemented by buckwheat; or in a section where alfalfa is raised for seed; where mesquite, California sages, and wild buckwheat abound; where mangrove, palmettoes, and titi, or where sourwood, tulip-tree, and asters are plentiful—the net profits here indicated may be frequently doubled or trebled.

On the whole there should be expected from the raising of bees for any purpose whatever only fair pay for one's time, good interest on the money invested, and a sufficient margin to cover accidental losses, etc.

With no greater expectations than this and where intelligence directs the work, bee-keeping will be found in the long run, to rank among the best and safest of rural industries.

Bees Help Fruit Crops

The value of bees in the pollination, or fertilization, of various fruit and seed crops is often sufficient reason to warrant the keeping of a small apiary, even if circumstances are not favorable for large yields of honey or the saving of all swarms. The quality and quantity of many varieties of apples, pears, plums, and small fruits depends absolutely upon complete cross-pollination. The most active agents in this important work are honey-bees.

How to Avoid Stings

Almost anyone can, with perseverance and the exercise of due caution learn to manipulate bees with perfect freedom and without serious risk of being stung.

Stings can be avoided, first, by having gentle bees. If no other point of superiority over the common brown or black bee than that of gentleness could be fairly claimed for some of the races of bees introduced and some of the strains developed in recent years, it would still be worth while to get them on this account alone. When the fact of superiority in several other important points is considered also, there should be no further question as to the advisability of procuring them in preference to the common variety. The beginner is advised never to think of doing otherwise.

Of the races already in general cultivation, Carniolans are gentlest, although Caucasians, more recently introduced from southeastern Russia, are by far the least inclined to sting of any bees, and may be handled at all times without resorting to the protection of a bee veil, and generally without smoke or at most a very slight application of smoke. Some strains of Italians equal in gentleness average Carniolans, but in general the race native to Italy is by no means as gentle as that found in Carniola, Austria, and the Caucasians are much to be preferred for the beginner. In case these gentler races are not easily procurable he need not hesitate, however, to undertake, after adopting due precautions, the manipulation of pure Italians.

The second essential to enable one to avoid stings is to have a good "smoker" at hand whenever the bees are to be handled. Any way of getting smoke of any kind into the hive and about it may answer the purpose, but for ease and effectiveness in keeping bees under control nothing will take the place of the modern bellows smoker. A good one lasts for years, and its cost is slight.

A veil, made of black bobbinet or Brussels net, to draw over the hat, and a pair of gloves, preferably of rubber, may be also used. Both veil and gloves can be safely dispensed with if the gentlest bees are kept.

The use of the "bee escape" in removing surplus honey reduces the risk of being stung during this operation. This useful device is fitted into a slot made in a board the same size as the top of the hive, and the whole, when slipped in between the brood apartment and an upper story or super, will permit all of the workers above to go down into the lower story but not to return to the top one, so that in one night it is possible to free entirely a set of combs from bees without any manipulation of the combs, and without smoking, shaking, or brushing the bees.

Reasonable care in handling and attention to the above points will reduce the risk of stings to a minimum.

Different Races of Bees

The following are the principal races of bees now found in this country:

1. Caucasians, a gentle race of good workers, natives of Southern Russia.
2. Carniolans, larger-bodied than the Caucasians, good honey gatherers, introduced from Austria.
3. Italians, the first of the foreign races introduced into this country, industrious, handsome, and excellent honey producers.
4. Cyprians, from the island of Cyprus, small-bodied with great wing power, prolific, and the best of honey gatherers, but difficult in management.
5. German, common black, or brown bees, commonly found wild and cultivated to a greater or less extent, in this country; probably derived from early introductions from the Old World. In comparison with the races mentioned above, they may be said to be inferior, since they possess the least energy in honey collecting, are less prolific, and not as good defenders of their hives. Under favorable conditions, however, as regards pasturage they may be relied upon for excellent results. They are, however, spiteful under manipulation, and have the disagreeable habit of running from the combs and dropping in bunches on the ground, likewise of flying from the hive entrance and attacking passers-by.

Crosses are frequently made of black bees with Italian queens, or of the other varieties mentioned, and generally with good results.

What Hive to Adopt

Bee-keepers are agreed that the best hives must have movable frames on which the comb is made, and which may be lifted out at pleasure. This is called the Langstroth principle, from the name of the first maker of such a hive.

The suspended Langstroth frame is used more than any other frame among English-speaking bee-keepers. It is safe to say that in the United States 500 hives are made and used which are essentially Langstroth in principle to one frame hive of any other kind whatever.

The success of American bee culture in the last twenty-five years was first attributed by European bee-keepers to the honey-producing power of the country; but the most intelligent apiarists who have tried the American methods with the Langstroth hive now recognize that success is principally due to the manipulations that it permits.

There being no patent on the Langstroth hive, and accurately made hives being obtainable at moderate prices from hive factories in various parts of the country, it is taken for granted that the enterprising beginner will adopt a simple form embodying this principle—the loose-fitting, suspended comb frame—as its main feature.

The hive should not only be substantially built, but should have accurate bee-spaces and a close-fitting, rain-proof cover or roof. Factory-made hives, as a rule, best meet these requirements, as both lock joints and halved corners can only be made to advantage by machinery, and the expert hive builder understands, of course, the absolute necessity of great accuracy in bee-spaces, as well as the great desirability of good material and workmanship. Provision should also be made for winter protection.

For comb honey, hives permitting the insertion in the brood apartment of any number of frames up to eight, or frequently up to ten, are used to advantage, as the strength of the colony or of a given harvest may require.

Location of Stands

The stands for hives should be placed in an enclosure where the bees will not be disturbed by passing animals or by strangers, and where they may be kept quiet. The hives should be placed on separate stands at least three feet apart. Weeds should not be permitted to grow near them, and in no case should the stands be placed close to walls or fences, where manipulation of the hives would be rendered difficult.

Natural Swarming

Swarming is simply the migration of honey-bees to a new hive or home under the leadership of a queen.

During the swarming season, which comes in the warm days of summer, the bee-keeper must be on the alert. When the swarm is seen issuing from the hive, or in the air, after an unusual excitement or buzzing in the hive, the utmost coolness and care are demanded of the operator. The old method of rushing about beating tin pans, dinner gongs, and cowbells is no longer in vogue, having deservedly fallen into disrepute as a means of saving the swarm. In all the operations performed with bees the keeper must act gently and quietly.

Soon after he sights the swarm the bees will probably gather in a clump on a tree or bush near the apiary, and however formidable getting them into the hive may at first seem, nothing will be simpler than shaking them into their new hive, or into a basket or box, from which they may be poured in front of the hive, just as one would pour out a measure of wheat or beans. If any stick to the basket or box, invert it and give a sharp thump with one edge against the ground.

If the hive has been standing in the shade so that the boards composing it are not heated, and if it be now well shaded and plenty of ventilation be given above and below, the bees are almost certain to take possession at once and begin work actively.

The securing of swarms can be made, however, even simpler than this by having the colonies placed several feet apart on a smooth lawn or dooryard and clipping one wing of each laying queen so as to prevent her flying.

The **prime** or first swarm from each hive is accompanied by the old queen, and if she be clipped she will of course fall from the alighting board to the ground and may be secured in a cage. The bees will circle about a few times and return. Meanwhile the only thing for the attendant to do is to replace the parent colony by means of an empty hive. The returning bees will enter the latter and the queen may be allowed to go in with them, the cage being placed with its open end directly against the entrance to insure this. The swarm is thus made to hive itself.

The parent colony removed to a new stand a rod or more away will rarely give a second swarm. But to make certain all queen cells except one may be cut out four or five days after the issuance of the first swarm. At the same time one-third to one-half of the remaining bees of the removed colony may be shaken at the entrance of the hive containing the swarm.

This reduces the population of the parent colony greatly, but the loss is soon made good by the young workers emerging daily, and the new queen which will issue from the single queen-cell, spared when cutting out cells, will soon restock the hive.

Artificial Swarming

Where an increase in the number of colonies is desired, and in case no one can be near the apiary to care for natural swarms with clipped queens, one of several artificial methods of forming new colonies may be employed. Natural swarming is, however, preferable to a poor system of artificial increase.

Prevention of Swarming

Under the most frequent conditions, however,—that is, where it is not practicable for the bee-keeper to be present at all times during the swarming season, or where the desired number of colonies has been gained—it is desirable to manage so as to prevent as far as possible the issuance of swarms from the hive, without interfering with honey storing. There are many plans to prevent swarming.

The most commonly practiced and easily applied preventive measure is that of giving abundant room for storage of honey. This to be effective should be given early in the season, before the bees get fairly into the swarming notion, and the honey should be removed frequently, unless additional empty combs can be given in the case of colonies managed for extracted honey, while those storing in sections should be given additional supers before those already on are completed.

With colonies run for comb honey it is not so easy to keep down swarming as in those run for extracted honey and kept supplied with empty comb. Free ventilation and shading of the hives as soon as warm days come will also tend toward prevention. Opening the hives once or twice weekly and destroying all queen cells that have been commenced will check swarming for a time in many instances, and is a plan which seems very thorough and the most plausible of any to beginners.

The removal of a queen at the opening of a swarming season interferes, of course, with the plans of the bees, and they will then delay swarming until they get a young queen. Then, if the bee-keeper destroys all queen cells before the tenth day, swarming will again be checked. But this plan is not to be commended, as it interferes with brood rearing and honey storing.

Quite the opposite of this, and more efficacious in the prevention of swarming, is the practice of replacing the old queen early in the season with a young one of the same season's raising, produced, perhaps, in the South before it is possible to rear queens in the North. Such queens are not likely to swarm during the first season, and, as they are vigorous layers, the hive will be well populated at all times and thus ready for any harvest. This plan is called "requeening." It is conducive to the highest prosperity of the colonies and aids the securing of the largest average yield of honey.

Pasturage for Bees

Bees will fly a great distance for food, but should not be compelled to forage over a range greater than 2½ to 3 miles from the apiary. They should have access to an abundance of honey-producing plants. When selecting crops for planting, therefore, the bee-keeper should choose such as will furnish honey at the times when pasturage for his bees would otherwise be lacking.

Planting for honey alone would hardly be profitable in any case, but the intelligent bee-keeper will note his surrounding trees and plants carefully and see to it that his bees have an adequate supply of forage at all seasons. It must be remembered that the various plants and trees visited by bees produce honey only for a short time each year, often only for a single month. Hence, as complete a list as possible should be made of the plants and trees visited by honey-bees, and notes should be added as to period of blossoming, importance of yield, whether honey or pollen or both of these are collected, quality of the product, etc.

If gaps occur during which no natural forage abounds for the bees, some crop can usually be selected which will fill the interval, and, while supplying a continuous succession of honey-yielding blossoms for the bees, will give in addition a yield of fruit, grain, or forage from the same land.

Bees may, if necessary, be fed artificially and should always have access to pure water.

Alfalfa, asparagus, basswood, buckwheat, locust, catalpa, chestnut, eucalypti, catnip, figwort, mignonette, mustard, rape, raspberry, roses, sainfoin, and sunflower are among the best honey-producing plants and trees.

To Obtain Surplus Honey

Good wintering, followed by careful conservation of the natural warmth of the colony; the presence of a prolific queen—preferably a young one—with abundant stores for brood rearing and the prevention, so far as possible, of swarming, are the prime conditions necessary to bring a colony of bees to the chief honey floor in shape to enable it to take full advantage of the harvest.

In addition, it is only necessary to adjust the surplus honey receptacles in time, making the space given proportionate to the strength of the colony, and, while continuing to prevent as far as possible the issuance of swarms, to remove the accumulated honey fast enough to give abundant storage room.

Extracted Honey

To secure extracted honey, the requisite number of combs may be in one long hive, or in stories one above another. Preference is generally given to the latter plan. The brood apartment is made in this case to hold eight to twelve Langstroth frames, and a second, and sometimes a third or even a fourth story, may be added temporarily. These are often called supers.

Before removing the filled combs time should be allowed the bees to ripen and cap the honey; hence enough combs are necessary to give the bees storage room while they are capping others. The honey in combs that are quite or nearly sealed over may be considered sufficiently ripened to be removed from the hive.

The cells are uncapped by means of a sharp knife, made especially for this purpose, and the combs are then made to revolve rapidly in a machine called a honey extractor. The centrifugal force exerted on the honey throws it out, leaving the comb cells uninjured, or so slightly injured that they are wholly repaired within an hour or so after the return of the comb to the hive.

The chief advantages of this method of harvesting over that of crushing the comb are at once apparent when it is known that each pound of comb saved represents several pounds of honey (consumed in its construction), and may with care be used over almost indefinitely in securing surplus honey. Furthermore, extracted honey is of much finer quality than that obtained by crushing the combs and straining out the liquid part, since it is free from crushed bees, larvæ, pollen or "bee bread," etc., which not only render strained honey dark and strong in flavor, but also make it liable to fermentation and souring.

The extracted honey is run into open buckets or tanks and left, covered with cheese-cloth, to stand a week or so in a dry, warm room not frequented by ants. It should be skimmed each day until perfectly clear, and is then ready to be put into cans or barrels for marketing, or to be stored in a dry place.

Comb Honey

The main difference to be observed in preparing colonies for the production of comb honey, instead of extracted, is in the adjustment of the brood apartment at the time the supers are added. After the colony has been bred up to the greatest possible strength, the brood apartment should be so regulated in size, when the honey flow begins and the supers are added, as to crowd many of the bees out and into the supers placed above. The supers may hold from 24 to 48 sections. When the honey is designed for home use or for a local market, half-depth frames are sometimes used, the same as those often used above the brood nests when colonies are run for extracted honey, but for the general market pound sections are better adapted.

Comb foundation is now manufactured with extra thin septum or base and with the beginnings of the cells marked out by somewhat thicker walls which the bees immediately thin down, using the extra wax in deepening the cells. This is not artificial comb, but a thin sheet of wax having the bases of the cells outlined on it. Complete artificial combs have never been used in a commercial way, although there exists a widespread belief that they have been.

Production of Wax

No method has yet been found which will enable a bee-keeper, at the present relative prices of honey and wax, to turn the whole working force of the bees, or even the greater part of it, into the production of wax instead of honey; in fact, the small amount of wax produced incidentally in apiaries run for extracted or for section honey is usually turned into honey the following season; that is, it is made into comb foundation, which is then employed in the same hives to increase their yield of marketable honey. As each pound of wax represents several pounds of honey, all cappings removed when preparing combs for the extractor, scrapings and trimmings, and drone comb are to be rendered into wax. A practical machine for this purpose is known as the solar wax extractor.

The Wintering of Bees

How to bring bees successfully through the winter in the colder portions of the United States is a problem which gives anxiety to all who are about to attempt it for the first time in those sections, and even many who have kept bees for years still find it their greatest difficulty.

It may happen occasionally that a queen, apparently young and vigorous in the autumn, will die during the winter, when a young one cannot be reared, and as a result the colony will dwindle away. Such losses are, however, rare, and, aside from the possible results of fire, flood, or violent storms, are about the only ones which cannot be avoided by careful attention to right methods in wintering.

Insufficient or poor winter stores, hives faulty in construction, lack of protection from cold and dampness, too much or too little ventilation, too great a proportion of old bees or too great a proportion of young ones, overmanipulation late in the season, etc., are the most important and most easily detected causes of loss in wintering bees.

Indoor wintering should be confined to regions where there are several weeks, at least, of continued severe weather. When all conditions are right, consumption of honey will be less indoors and loss of bee life less than with the methods usually practised in outdoor wintering.

Whatever method be followed in wintering, certain conditions regarding the colony itself are plainly essential: First, it should have a good queen; second, a fair-sized cluster of healthy bees, neither too old nor too young; third, a plentiful supply of good food.

Wide Opportunity for Bees to Gather Honey

The first of these conditions may be counted as fulfilled if the queen at the head of the colony is not more than two years old, is still active, and has always kept her colony populous; yet a younger queen—even one of the current season's rearing, and thus but a few weeks or months old—is, if raised under favorable conditions, much to be preferred.

The second point is met if brood rearing has been continued without serious interruption during the latter part of the summer and the cluster of bees occupies, on a cool day in autumn, six to eight or more spaces between the combs, or forms a compact cluster 8 or 10 inches in diameter. Young bees, if not well protected by older ones, succumb readily to the cold, while quite old bees die early in the spring, and others, which emerged late in the summer or autumn preceding, are needed to replace them.

The third essential—good food—is secured if the hive is liberally supplied with well-ripened honey from any source whatever, or with a fairly thick sirup, made from white cane sugar, which was fed early enough to enable the bees to seal it over before they ceased flying.

The sirup is prepared by dissolving 3 pounds of granulated sugar in 1 quart of boiling water and adding to this 1 pound of pure extracted honey. Twenty to 25 pounds for outdoor wintering in the South, up to 30 to 40 pounds in the North, when wintering outside with but slight protection—or, if wintered indoors, about 20 pounds—may be considered a fair supply of winter food.

Special double-walled hives and other devices may be obtained to promote successful wintering. In fact, the manufacture of apparatus and supplies for bee culture is in itself an industry of considerable importance nowadays.

Bees in Open Field

Bee Keepers' Maxims

Clip the old queen's wings.

Go through the hives every ten days to destroy queen cells.

As the swarming season approaches have hives ready with foundation in brood-frames, and hive-stands ready to receive them.

Keep a serene spirit while hiving bees.

The hive in which the colony is placed should be kept cool and not heated from standing in the sun; it should be shaded, as the swarm will not enter a hot hive.

If the bees refuse to accept a hive, give them a frame of unsealed brood to reconcile them.

Maxims for Opening the Hive

Have the smoker ready to give forth a good volume of smoke.

Use the smoker to scare the bees rather than to punish them.

Do not stand in front of the hive lest the bees passing out and in take umbrage.

Be careful not to drop any implements with which you are working; take hold of all things firmly.

Move steadily, and not nervously.

Do not run if frightened, for the bees understand what running away means as well as you do.

If the bees attack you, move slowly away, smoking them off as you go.

If a bee annoys you by her threatening attitude for some time, kill her ruthlessly.

Ammonia applied to the wound made by a bee-sting will usually afford immediate relief.

Keep the colonies strong.

The bees should be kept warm and well fed in the spring.

The bees must have wintered well.

The colony must have brood and plenty of honey in the brood-chambers at the beginning of the honey season.

Never let the honey in sections or supers be exposed in the apiary to incite robbery.

Keep the sections in a room in which the temperature never falls below 60 degrees.

Fumigate the sections before they are stored if you are troubled with bee-moth.

Send the honey to market in as attractive form as possible. Make your product individual in appearance, and strive to create for it a special market.

Maxims for Feeding

Keep close watch on the bees during the entire season, so as to know whether they need feeding or not.

Feed only good honey or the best sugar.

Never feed scorched sugar in the winter as it will surely kill the bees.

Observe the practice of feeding at nightfall to preclude robbing.

Never spill the syrup or honey around the yard, lest robbers be led on to black deeds.

Feed small amounts to stimulate a swarm or nucleus. Bees are susceptible to small encouragements.

Be careful never to cool off the brood chamber when feeding in early spring or late fall.

See to it that the bees have water near by, especially early in the season.

Maxims for Wintering

Keep the colonies strong. Be sure that a good-sized swarm has at least thirty pounds of sealed stores.

Pollen should not be left in the comb for winter use.

Be sure that the honey is of good quality, and not made from decayed fruit or honey-dew.

Give the hive ventilation from below.

If wintered out of doors, give the bees a chance to fly.

If wintered in cellars, do not put too many bees in a cellar. If you have space for fifty colonies, do not try to winter more than thirty in it.

In cellars take off the bottom boards and arrange the hives so that the bees will get plenty of ventilation from below.

Have a thermometer in the cellar and keep watch on it. This should not show more than ten degrees of variation. If the temperature rise to 55 degrees, open the windows at night.

Keep the cellar dark and the air sweet.

Sweep the dead bees off the cellar floor several times during the winter.

Wheat Growing

Wheat is the most valuable of all the cereal crops. Its original home is unknown, but it is probably a native of Western Asia. It was cultivated in the most ancient periods of the world's history. In China it was grown 2700 years before the Christian era, but it was probably not grown in America until after the discovery by Columbus in 1492. Today it is a most important crop in all the temperate parts of the globe, including vast areas of the United States and Canada.

Wheat is a hardy plant, though its cultivation does not extend as far north as that of barley, oats, or rye. It is an annual and may be sown either in the spring or in the fall. When sown in the fall it is known as winter wheat. Wheat grown in comparatively dry climates is superior in quality to that grown in humid regions, as is shown by the difference in quality of the hard spring wheat of the Dakotas, for instance, and the soft winter wheats produced on the Pacific Coast. A prevalence of dry weather with bright sunshine from the time the plants begin to head until they are ripe is everywhere of the greatest importance.

The different varieties are classified by farmers as spring and winter wheats, bearded and beardless or bald varieties, soft and hard wheats, and also according to the color of the grain, as red, white, amber, etc. The varieties are very numerous, more so than in any other kind of grain. Botanists have classified the common bread wheats as *Triticum vulgare,* this species of *Triticum* including soft and hard winter wheats, hard spring wheats, white wheats, and early wheats.

Durum Wheat

The hardest-grained of all the wheats grown are popularly known as the *durum* or hard wheats. They are specially valuable for the manufacture of macaroni, but are frequently mixed with the bread wheats in the manufacture of flour and are largely grown in the United States.

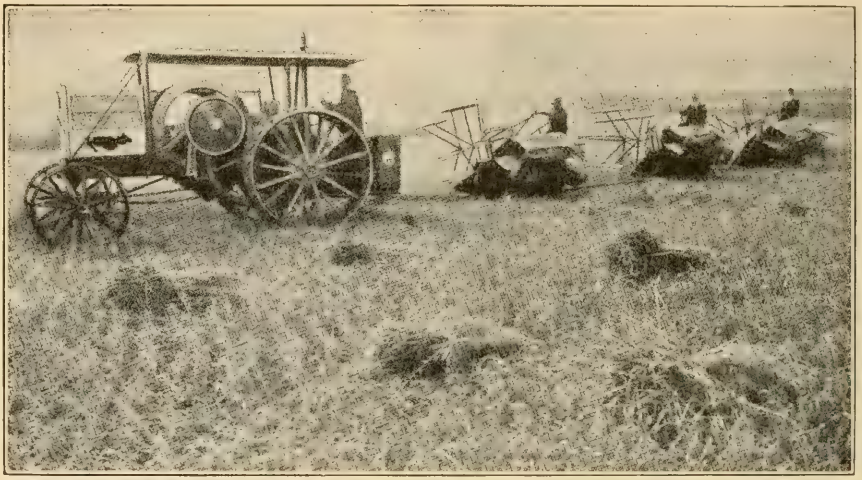
Fertile Soil Required

Wheat requires a fertile and well-prepared soil. It makes a poor growth on light, humid, and acid soils. The most favorable soils are those which are permeable and deep, a little clayey and of medium fertility. Gravelly and sandy soils are not suitable. It grows well on alluvial soils and in fact on most soils which may be classed as heavy but which do not possess a very great tenacity.

Perfect drainage is essential, since young wheat plants are readily injured by the heaving of the soil due to the action of frost. Rolling the land before sowing winter wheat leaves the soil in a drier condition and thus minimizes the action of frost.

The preparation of the land for winter wheat consists in plowing the soil about 4 or 5 inches deep as early in the season as possible, to allow it to become somewhat compact before the seed is sown.

The seed is sown broadcast or in drills. When broadcasted, usually by a machine made for the purpose, it is harrowed in. Drilling, however, is the most popular method and has the advantage of evenly distributing the seed and covering it at a uniform depth.



In the Harvest Field of the Great Northwest

One Tractor Drawing Three Grain Binders, Cutting a Swath 21 Feet Wide. Each Binder 7 Feet Wide, Cutting 50 Acres in a Day of 10 Hours

Spring Wheat

Spring wheat is usually grown on fall-plowed land, and in the United States also frequently follows a corn crop without plowing the soil. It is generally sown as soon as the soil is capable of being worked in the spring. As wheat grows best and makes most of its growth during the cool part of the year, it should be sown as soon as conditions will permit. A moist soil at sowing time, provided it is not so moist that it cannot be worked, is the desirable condition.

Where wheat follows a corn crop (maize) without an intervening plowing of the soil, it is sown broadcast among the corn stalks and the field then cultivated with a corn cultivator and the surface smoothed down by repeated harrowings. Sometimes the corn stalks are cut into short pieces with a stalk-cutter before the seed is sown, which makes the cultivating and harrowing easier and more effective, but frequently the stalks are simply broken down by means of the harrow. If the stalks are not broken down flat to the ground, they cause trouble subsequently in cutting the grain by machine.

When Cut Wheat, Care Afterwards

Harvesting Wheat

Wheat is generally harvested before it has become dead ripe, in order to prevent the grain from shattering while being handled from the time it is cut until it is stacked or threshed. In California, however, this precaution is not so necessary and wheat is often left standing for a week or more after it is ripe enough to cut.

The time of harvesting wheat, like the time of sowing, varies with the latitude. In the United States the harvest begins in Texas early in May and it ends in some of the Northern States in August.

Harvesting wheat is usually done with the self-binder, although in regions where labor is cheap the reaper is still largely used.

After the grain has been bound into sheaves it is set up into shocks and left to dry and cure. Round shocks are made if the main object is to protect the sheaves against the rain, but long shocks are required if the sheaves are wet or the grain is cut quite green. This expedites drying and curing.

When the wheat has been cut and shocked, the sheaves are hauled and stacked until threshing time. The principal point to be observed in building a stack is that the sheaves, especially the outer tier, must have an outward slant in order to shed the rain.

In this country threshing is generally completed in the fall. In sections where wheat is grown on an extensive scale, and the straw has little value, the grain is often harvested with headers, or machines which cut the grain just below the head. Some of these machines, with either horse or steam power, cut the heads and thresh out the grain at the same time.

At the present day, wheat is threshed with improved or perfected machines operated by horse, steam, or electric power. The old method of threshing by flail is now even less common than sowing by hand.

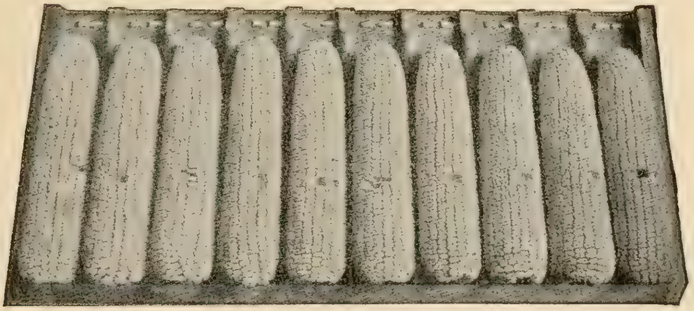
In this country wheat properly follows corn in the rotation of crops, since corn leaves the soil in clean condition. In the eastern states the use of commercial fertilizers in wheat growing is quite common, but in the west, as a rule, no fertilizers are applied. Barnyard manure is seldom applied directly to wheat, though it is usually applied to a preceding corn crop.

CORN, THE GREAT CEREAL CROP OF THE UNITED STATES

How Fertilize, Plant and Cultivate

Maize or Indian corn (*Zea Mays*) is a universal crop in the United States under the popular name of corn. It is generally thought to be a native of America, all the evidence pointing to its cultivation by the native tribes long before the discovery by Columbus, who is said to have carried the first grains of corn to Europe on his first return voyage.

Most varieties have white or yellow kernels, but black, red, and various other colors are represented among the many different sorts. Ears vary in length from one inch in some varieties of popcorn to 15 inches or more in the so-called dent varieties. The plant varies in height from less than two feet in dwarf varieties to more than 30 feet in some forms grown in the West Indies. Specimens more than 20 feet tall are not uncommon in the rich river valleys of the United States.



Ten Champion Ears of Corn

Corn is grown on many different kinds of soil, but for its best growth requires a well-drained, rich, sandy loam which does not bake hard during drought.

In preparing the soil for corn, it is plowed deeper than for any other cereal crop, the object being to obtain a deep and well-pulverized seed-bed.

The bulk of the world's corn crop is produced in the northern Mississippi Valley, where it is planted from May 1 to May 20 and matures in about five months. In other latitudes planting is done late enough to escape the latest spring frosts.

Corn is usually sown in hills or in drills, by means of a corn-planter, but it is sometimes also sown broadcast. The hills should be about 3½ feet apart each way, and three or four stalks are produced to each hill; but when planted in drills the single plants are grown about one foot apart in the row.

From the time of planting until the young plants appear above ground, the soil is harrowed for the purpose of keeping the surface in a pulverized condition and preventing the growth of weeds. The plants should be cultivated with the horse-hoe or corn cultivator after they have attained sufficient height and until they are too large to admit of further cultivation without injury to the plants. In the principal corn-growing states cultivation usually begins about the first of June and lasts for about six weeks. When planted in drills it can be cultivated in one direction only. When grown in hills, or checks, the direction of each cultivation is at right angles to the preceding cultivation, so that all the surface soil may be stirred.

The time of harvesting corn depends somewhat on the use to be made of the crop. When grown for fodder, corn is cut when the kernels begin to glaze and the lower leaves begin to dry. The cut stalks are put up in shocks and left to cure in the field. When dry the ears are removed and the stalks, called fodder or stover, are used directly for feed, or shredded and then fed.

Corn grown for the grain is harvested when it is fully ripe and dry. The ears are gathered, husked, and stored in slat cribs, through which the air passes freely, thus drying the corn and preventing attacks of mold. This method of harvesting is known as husking, picking, or shucking—the first being the most common name.

Before it is fed or sold corn is usually shelled, by passing the huskless ears through corn-shellers operated by hand, horse, or steam power.

The great corn-producing states are Illinois, Iowa, Kansas, Nebraska, Missouri, and Indiana. About 50 bushels an acre is considered a good yield, but the average yield an acre for the whole United States is only about 25 bushels an acre. In individual instances yields of several hundred bushels an acre have been recorded and under more scientific cultivation the average yield an acre is on the increase.

Facts About Some of the Common Crops

Barley

Barley is one of the most ancient of cultivated plants. It has been found in the earliest Egyptian monuments. Its botanical name is *Hordeum vulgare* and the range of latitude in which it is grown practically equals the width of the temperate zones.

The preparation of the soil for barley is very similar to that for wheat. The land should be plowed fairly deep and thoroughly pulverized to form a well-prepared seed-bed. The soil should be porous, well drained and fertile.

In northern latitudes barley grows best on sandy and calcareous loams, but in southern countries it thrives best on soils containing a little more clay. It is a plant of a short growing period and the tilth and fertility of the soil should be such as to enable it to make a rapid growth. When barnyard manure is applied directly to the crop it should be well rotted. It will be better to apply the manure to a previous crop, preferably corn.

In the United States barley is sown in the spring, as a rule, though it is also grown as a winter annual to some extent in the southern states. The quantity of seed sown varies from two to three bushels an acre. It germinates at about the same temperature as wheat, but the young plant is more susceptible to cold than wheat and a light frost will often injure it.

In the states where spring wheat is grown it is a common custom to sow barley after wheat and before oats are sown. It is generally sown broadcast, but many farmers, especially in the New England states, prefer to sow it in drills from 8 to 10 inches apart.

Barley is now generally harvested with the self-binder. As soon as the sheaves are dry enough, they should be stacked or hauled into barns to prevent exposure to rains or damp weather, which will injure the color of the grain and materially reduce its market value. Barley ripens earlier than spring wheat and is usually harvested just before that crop. When grown for malting purposes it should not be harvested before it is thoroughly ripe.

From 35 to 40 bushels of barley an acre is considered a good yield, although under very favorable weather and soil conditions the yield often reaches 60 bushels an acre, or even more.

Oats

The oat (*Avena sativa*) is a hardy plant, well adapted to temperate climates and extensively grown for food and fodder in the United States. It succeeds best in a cool, moist climate.

Oats will grow on light or heavy soils, provided there is no excess of water. The seed-bed is prepared about the same as for wheat and barley, but not quite so deep. In the eastern states the land is usually plowed before oats are sown, but in the west they are frequently sown on corn land without plowing and covered with a corn cultivator or disk harrow, the surface being then smoothed with an ordinary harrow.

When sown on unplowed land oats are always broadcasted, and on plowed land may be either broadcasted or drilled. From two to three bushels of seed an acre is usually sown.

Oats are sown in the spring and in the fall, the latter in southern localities. The bulk of the crop is spring-sown.

When sown as early in the spring as possible the crop does best, as it makes most of its growth during the cooler part of the season. In northern latitudes it ripens in 90 days or even less, but in southern localities a longer time is required.

From 40 to 60 bushels an acre is considered a good yield, but much greater returns are often secured.

The oat plant furnishes green forage, hay, and straw, while the ripe grain and its milling products are of great importance as foods and feeding stuffs. The grain has long been used as a food for man, in the United States chiefly as a breakfast food.

Tobacco

The tobacco plant is a native of America and this continent has continued the principal producer and chief tobacco-growing country, the center of the tobacco interest in the United States being Virginia and Kentucky. Its name comes from Tobago, one of the West Indian Islands.

Tobacco owes its principal properties to the presence of a most poisonous alkaloid named nicotine.

In the cultivation of the tobacco plant the object is to render the leaves as large and numerous as possible. When the leaves become brittle the plants are cut close to the ground, and afterward carried to the drying shed, where they are hung up in lines to sweat and dry.

When perfectly dry the leaves are stripped from the stalks and made into small bundles, which are subsequently stored in casks for exportation.

In the manufacture of tobacco the leaves are first thoroughly washed with salt and water. The midrib of the leaf is then removed, the leaves are again sorted and the large ones set apart for making cigars.

Cotton

This is a perennial shrub, consisting of two varieties, the long staple cotton, which has a fine, soft, silky fibre nearly two inches in length, and a short-staple cotton which has a fibre a little over one inch long adhering closely to the seed. The long-staple variety, known as Sea Island Cotton, holds the first place in the market. It is grown in some of the Southern states of America, especially on islands bordering the coast. The mode of planting is usually as follows: The seeds are sown in the spring in drills about a yard in width, the plant appearing above ground in about eight days afterwards. For the many improvements and methods of cultivation of cotton the reader is requested to address any of the agricultural experiment stations in the South which we publish elsewhere.

Hay

Hay ranks third in value of the farm crops in the United States, being exceeded only by corn and cotton.

Timothy, medium red clover, and alfalfa are the favorite hay crops in the order named, the first far in the lead. Other grasses largely used for hay are red-top, brome grass, Kentucky blue grass, buffalo grass, and foxtail millet, each flourishing best in certain localities. In many sections of the South, Bermuda grass is the favorite, while the cowpea has come more and more into favor there. On the Pacific coast wheat, oats, and barley are each harvested extensively for hay. Timothy is another of the many top-notchers that America has given to the world, being indigenous to the northeastern states. It was named 150 years ago in honor of a New Hampshire farmer, Timothy Herd, who, with Yankee shrewdness recognized its value, and, with New England missionary zeal, did much to make known its good qualities to others; from him it is sometimes called timothy, at other times herdsgrass. He introduced it into the Carolinas in 1720.

Grasses should not be harvested more than one year, unless the land is restored by a liberal top dressing of barnyard manure or commercial fertilizer.

Red-top, brome grass, and Kentucky blue grass should be sown broadcast by hand. Timothy, recleaned Kentucky blue grass, clover, and alfalfa do better when a grass seeder is used.

Fall seeding is preferable except in exceedingly moist climates, and the seeding is generally done along with a "nurse crop"—a grain crop—since the grain will shade the ground and prevent the growth of weeds that would ruin the hay.

Rye

Common rye (*Secale cereale*) does not seem to have been cultivated so long as the other common cereals, though it was known to the Romans in Pliny's time. It does not grow as far north as barley, but succeeds in regions too cold for wheat and on soils too poor for any other grain. It is most productive where wheat will ripen, and is best adapted to light, sandy lands.

The varieties of rye are far less numerous than those of the other important cereals, and may be classified into winter and spring varieties. The former are most frequently grown and are sown in autumn, the latter early in spring.

Cultural management for a crop of rye is much the same as that for barley. Winter rye is usually ripe for cutting in June. A good crop is from 20 to 30 bushels of grain an acre.

On lands deficient in humus, rye is frequently grown for green manuring.

In Europe rye ranks next to wheat as a bread-stuff. When the grain is milled entire—the usual way—it contains more protein than wheat flour. Mixtures of wheat and rye flour, and of corn and rye, are often made for bread-making.

Buckwheat, Hops and Mushrooms

Buckwheat—The Farmer's Aid

This cereal will grow upon poor, thin, light soils, where other crops would not be productive at all, though the largest yields are obtained on fertile, well-drained, sandy loams. Upon a foul soil it occupies the entire ground, remorselessly driving out the weeds and leaving the land clean for another crop. Buckwheat prefers a moist, cool climate, and matures in 8 to 10 weeks, thus being adapted to short seasons and high altitudes. It is also valuable from its adaptability to the production of a crop late in the season on lands that have been too wet in the early part of the season for starting other crops. Sown as late as the middle of July in regions as far north as Iowa, it will mature a crop.

Because of its single, long tap-root, the buckwheat is excellent for deepening the fertile soil. Two or three crops will mellow up the most refractory soil. It serves well for this purpose as its growth is rapid and luxuriant. Buckwheat is sometimes sowed early in the spring to be plowed under as green manure for other grains. Three crops to the season may thus be grown. It makes a good "cover-crop" for orchards, sown after the middle of August.

The name buckwheat is generally admitted to come from the Scotch word boc—for beech—owing to its resemblance to the three-cornered beechnut.

Aside from its value as a palatable flour for winter use, on account of its heat-producing properties, the grain is valued as a stock food for fattening purposes; sheep love buckwheat straw, which is an excellent fertilizer, and buckwheat bran fed to cows adds to the quantity of the milk, though detracting from its quality. The crop is also grown as among the best of bee pastures.

Though this grain will succeed with less cultivation than any other crop (the surface soil needs to be finely pulverized and that is about all), yet a good preparation of the seed bed aids very materially in securing profitable yields of buckwheat.

Heavy applications of barnyard manure or nitrogenous fertilizers are not usually profitable because they increase the tendency of the crop to "lodge," and when once lodged the buckwheat never rises again. At the government experiment stations the application of 400 pounds of acid phosphate per acre for two seasons apparently almost doubled the yield of grain, but the third season the best results were obtained by the use of 150 pounds or less of the phosphate.

Early plowing to allow the ground to settle before the seed is put in is recommended. The seed is sown with the ordinary grain drill, or broadcasted; it is harrowed in the same as other grains. Three pecks of seed to the acre is sufficient on good soil, but on land of low fertility 4 to 5 pecks is used. Hot weather and frost are both injurious to the crop while the grain is forming, hence in the South the grain is sown from May to September; in the North from June 15 to about July 10. The plant blossoms for three weeks and the kernels ripen unevenly. Harvesting should begin when the first seeds are ripe, the immature seeds will ripen in the swath and over-ripe seed would shell out in handling. The grain is cut with the hand cradle or the dropper reaping machine. It ought to be cut while the stocks are damp with dew or moist after a shower, to avoid danger of the grains being shaken off in handling. It heats rapidly and should be left in loose shocks in the field and should not be mowed away in the barn too soon.

Because it leaves the soil peculiarly mellow, it has been found profitable to follow a buckwheat crop with potatoes in regions of rather heavy soils. Oats and corn are not best as following crops to succeed buckwheat. A good rotation is found to be clover, buckwheat, potatoes, oats or wheat; the clover can be harvested early and followed by the buckwheat, securing two crops for the season.

Hops

A soil capable of growing good corn is suitable for hops. The land should be high, sunny, dry, airy, rich, and mellow. Proximity to thick woods in a valley renders the plant liable to rust, mold, and blight. In planting, after richly fertilizing the land, plow deep, using a sub-soiler, and set out vines as soon as the ground can be worked in the spring, placing in hills eight feet apart.

The hop is propagated by cuttings from the most healthy of the old shoots; two buds are required, one beneath the ground from which will spring the roots and one above to develop into the stalk.

Any hoed crop can be raised the first year between the rows. The plant is a perennial but the vine dies down to the root every season. If trained on poles the pole should be about eight feet high. The vine turns from right to left, and will grow thirty feet in a season.

The value of the hop is determined by the amount of lupulin found in the flower; this furnishes the odor, taste, and medicinal property of the flower.

Hop-culture is first mentioned in history by Pliny. The Romans raised the plants as a garden vegetable, eating the young shoots as we do asparagus.

The leaves and spent hops are an excellent food for livestock, especially sheep.

Medicinally hops have tonic, stomachic, and narcotic properties. Hop pillows are used to induce sleep; hop poultices to allay pain.

Lippia—A Soil-Binder

The lippia, or fog-fruit, is a soil-binder and lawn plant for arid regions and sandy soils. It belongs to the same family as the lantanas and verbenas; is a perennial, much-branched, creeping plant and gives all the effect of a white clover lawn in regions where it is difficult or impossible to grow the usual lawn grasses. Along sandy shores, water courses, and to prevent washing of reservoir and stormwater embankments its use is unrivaled. It has maintained itself on the mesas of Arizona for eight months with less than two inches of rainfall and can endure temperatures ranging from 10 to 110 degrees Fahrenheit.

Mint

Is a hardy perennial of easy culture, grown in gardens for use in soups, sauces, salads, etc. It is increased by divisions of the roots, and planted at a distance of a foot apart, it soon forms a mass that can be cut from for years. It is grown to considerable extent in hotbeds and forcing pits for the spring markets.

Mushroom Growing

Mushrooms may be grown out-of-doors in the open field or lawn, when conditions are favorable. The spawn should be planted in rich, old, well-drained grass lands, avoiding wet or shady locations as well as dry and sandy soil. A V-shaped cut 4 inches deep should be made in the sod, a piece of spawn about 3 inches square inserted, and the sod replaced and firmed down so as to retain moisture, and the plant left to itself. The spawn should be planted about 3 feet apart for this open culture. Plant in June and you may expect mushrooms in August and September.

Grown indoors, the mushroom is the most profitable vegetable crop that can be raised for the amount of capital and labor invested. It is moreover one of the most interesting crops for the amateur in that there appears nothing tangible to start with, since the eye can discern neither plant, seeds, nor roots.

Mushrooms may be grown either in houses especially erected for them or they may be grown in cellars, out-houses, sheds, under green-house tables, in stables, or in caves, as they do not require light.

The cool moisture and uniform temperature of a cellar is more congenial to their growth than rooms above ground. But if the cellar is beneath a dwelling, judgment must be used in placing the beds where there is no danger of the odors that may arise disturbing the occupants of the house.

The temperature should range between 55 and 65 degrees. The germs or spores are found in the gills of a perfectly developed mushroom and these, when falling into a congenial "soil," produce the spawn which may be bought of any seedsman.

The beds may be about 4 feet wide, bounded by scantlings or boards about 10 to 15 inches wide. In these beds place fresh horse droppings from the stable mixed with the same weight (about 1/3 the bulk) of fresh loam from pasture or sod land. Beds should be pressed down with a brick but not packed too tightly, and should be 8 inches deep.

Make the beds for a crop wanted in winter about August or September. The temperature then is high enough to cause the spawn to germinate freely. Moisten the bed with water and leave to ferment.

Testing with a "hot bed thermometer," the temperature may rise to over 100 degrees; when the bed has cooled to 90 degrees insert the spawn. This is done by using a dibble and making, all over the bed, at a distance of a foot each way, holes four inches deep and in each hole placing a piece of mushroom spawn about the size of a hen's egg; firm it down and leave ten or twelve days, until the spawn have run through the whole bed, then cover the entire bed with two inches of well-pulverized loam to keep the heat in at an equable temperature, and over this spread three or four inches of hay or straw. The atmosphere may be kept moist by a few barrels of fermenting manure in the house. This does away with the risk of getting the beds too wet. But if watering is necessary use at a temperature of 80 to 100 degrees. And the temperature of the room should not fall below 50 degrees.

After the mushroom appears the soil must be kept moist.

The spawn planted in August will produce mushrooms in December or January. After the first crop is gathered an added half inch of soil on the top of the bed will result in a second crop often better than the first, and the bed may continue to yield until March or April.

Pepper Grass

Prized because of its exceedingly rapid growth, which makes it the very first of the green vegetables available from out-door planting in the spring, being ready for use before either the early radishes or new onions. A very rich, well-pulverized soil, prepared as for radishes, should be provided.

Pop-Corn

Broadly speaking, the same soil and cultivation required for sweet corn is suitable for pop-corn, and a small stand of pop-corn is a good feature for any home garden, especially where there are children, as it adds to their interest in mastering garden work. If grown in large areas it should be drilled in and not planted in checks. There are over a score of varieties of this corn which may be divided into three groups: Those having kernels broader than deep, as the Nonpareil; those with kernels broad as deep, which varieties include the Tom Thumb, Golden Pearl, and Dwarf Golden; while the Queen's Golden and various rice corns belong to a third group having kernels deeper than broad.

Large growers in the West have sometimes 1,000 acres devoted to pop-corn, and an ordinary yield with this specialized crop is 100 bushels to the acre. The usual yield, however, when grown by the average farmer, is 80 bushels to the acre at a cost of $12 to $15 an acre to put on the market. In nutritive value popped pop-corn has been found to contain 13.3 per cent protein, 5.7 per cent fat, 76.4 per cent nitrogen-free extract. Pop-corn with cream forms a highly nutritious article of diet, and at many sanitariums pop-corn has a regular place on the diet list.

Flax

While hemp is usually grown in America for its fibre, flax is more often grown here for the seed. It is a pioneer crop to a great extent, especially on the prairie lands of the Northwest. The pioneer breaking the sod on new prairie land turns it over to rot for a season before planting it to wheat; by planting flax on this freshly turned sod he secures a crop the first season. Two and one-half pecks of seed to the acre should be sown if flaxseed is the object, that the plant may develop many branches, each bearing seed. For fibre alone a bushel and a half to three bushels of seed is required. The thick growth allows for the development of but few seeds at the top but the fibre is of much finer quality. Both seed and fibre may be secured by sowing a medium amount of seed. The yield per acre is usually two or three tons of fibre or fifteen to twenty-five bushels or flaxseed (fifty-six pounds to the bushel). A bushel of seed yields about twenty pounds of oil, which, because of its quick-drying qualities, is highly esteemed for making paints and varnishes. Where labor can be had at low cost the flax grown for fibre is pulled by hand. By repeated sowing to flax, soils soon become "flax sick."

Rice

There are as many varieties of rice as there are of wheat or barley, 25 or more being generally considered; however, one catalogue classifies 161 varieties in the Island of Ceylon, and it is claimed that 1,400 varieties exist in China, India, and Japan. Three main types are recognized in the United States: Honduras, Japan, and Carolina rice. It has been grown in the American colonies of South Carolina and Georgia for nearly 250 years, almost from their foundation.

Rice is more rich in easily digestible carbohydrates than is any other cereal and has few equals, in this respect, among the foods of man. The South Carolina rice is especially rich in fat and is held in high esteem. The unpolished rice is by far the most nutritious and preferable for food.

Rice flourishes in a sub-tropical climate and is more and more widely grown in the Gulf States. It is a grass, an annual, varying from one to six feet in height. It thrives best in low, marshy ground which can be overflowed, and in tide-water swamps, but must not be flooded with salt water. In seaboard areas, subject to inundation, its culture is comparatively easy, otherwise irrigation is necessary.

It is planted from March to June. The early plantings are usually covered with earth, when the fields are flooded to sprout the grain. The field is then drained and kept so until the crop is set, when another short flow is given.

The later plantings are in open trenches, where water is put on until the grain has taken root. It is then given air by slaking the water down to the surface, but holding the surface moist until the plants are well rooted, when the tides are let on again. A uniform covering of 3 to 6 inches is considered satisfactory, but 6 to 12 inches are recommended. Four to six months are required to mature a crop of rice. When the grains are in the milk the water is removed from the field until the crop ripens. This takes usually about a week.

The grain should be cut with sickles and bound in bundles and stacked. After a week or two it will get through the stack sweat and be ready for cleaning.

The enemies of growing rice are water-weeds and birds. To guard against the former the rice swamp may be drained for a season and planted to some other crop, when the water-weeds will naturally die out. The birds are the Rice birds (Bob-o-link) and the omnipresent English sparrow.

One species of rice, known as "Cochin China," is an upland rice and grows on the dry soils of Virginia, Maryland, and North Carolina, also in other sections. It endures a wider range of climate than the wet-grown rice. The upland rice may be grown upon any soil that will produce good corn or cotton. It thrives well on rich soil and in marshy bottoms. The land should be plowed in the fall, the ground must be thoroughly pulverized. The seed should be sown in June, in drills 30 inches apart and covered lightly. One to three bushels to the acre is required. The after culture is the same as for any other drill crop.

The upland rice produces 15 to 20 bushels to the acre, while the rice grown in the flooded fields will yield 30, 60, and even 100 bushels to the acre, each bushel of 45 to 48 pounds.

Sorghum

Wherever common corn will grow, sorghum, or sugar-cane, will grow, whether it be in Vermont or Texas. Aside from its use for making molasses and sugar, it makes a more profitable green fodder for stock than does corn, since it contains more sugar. The cultivation of sorghum is the same as that of corn excepting that it is planted in drills, twenty-five or thirty grains to the foot of drill.

Cocoanut

The cocoanut tree is known as one of the great family of palms, attains a height of 60 and 100 feet, and bears from 80 to 100 nuts a year. Begins bearing after planting when seven years old and continues to bear for 70 years or more thereafter. Many uses are made of the cocoanut. The oil of the nut is one of its most valuable products. Ten nuts usually produce a quart of oil. The best oil is used for cooking purposes and the inferior sorts for illumination. Large quantities are imported into the United States for the manufacture of candles and soap.

ALFALFA

The Richest Forage Crop With Directions How to Plant, Cultivate and Successfully Grow Several Crops a Year

Alfalfa, though known to and highly esteemed by the ancients and one of the easiest things in the world to grow, was long regarded by the American farmer as a crop of mystery. Only within the past few years has this remarkable hay plant come into its own, so that it is now recognized as one of the hardiest of all plants, highly responsive to cultivation and a boon, if not a bonanza, to the enterprising and enlightened grower.

Alfalfa was grown in ancient Egypt and Persia. It was introduced into Rome in 146 B. C. and has been cultivated in Italy ever since. In the 16th century it was imported into America by the Spaniards. Its introduction into the United States has been from both the east and the west.

Many Names

The botanical name of alfalfa is **medicago sativa.** It is also known throughout the world by the following names: Lucerne, French clover, Brazilian clover, Syrian clover, sainfoin, Spanish trefoil, purple medic, medica, common fodder, snail clover, branching clover, stem clover, monthly clover, horned clover, perennial clover, Burgundy clover, Welsh clover and Sicilian clover.

These names are given to the plant in English-speaking countries and indicate its widespread character and some of its characteristics. The names given to alfalfa in foreign languages would fill a column.

The importance of alfalfa to the farmer and stockman lies in the fact that it is the richest hay food known. An enthusiastic grower has said: "The cultivation and feeding of alfalfa mark the highest development of our modern agriculture. Alfalfa is one of Nature's choicest gifts to man. It is the preserver and the conserver of the homestead. It does not fail from old age. It loves the sunshine, converting the sunbeams into gold coins in the pockets of the thrifty husbandman. It is the greatest mortgage lifter yet discovered.

"The labor alfalfa performs in penetrating the subsoil is enormous. No other agricultural plant leaves the soil in such good physical condition. It prospects beneath the surface of the earth and brings her hidden treasures to the light of day. It forms a partnership with the micro-organisms of the earth, by which it is enabled to enrich the soil upon which it feeds. The farmer with a 50-acre meadow of alfalfa will have steady, enjoyable employment from June to October; for as soon as he has finished gathering the hay at one end of the field, it will be again ready for the mower at the other."

Grown Successfully in All Sections

Alfalfa is hardy, has a deep-feeding root system and is grown successfully in every section of the United States. But it demands proper treatment and a knowledge of the needs of the plant is necessary to successful growing.

The conditions as regards moisture are the dominating influence in growing alfalfa. Locality, altitude, soil and position are minor considerations. The expression so often heard, "Alfalfa will not stand wet feet," is literally true in every locality.

Necessary Soil Conditions

Choose a loamy surface with good drainage; this can best be obtained on a sloping hillside or on gently rolling land. The water level should be not less than three feet below the surface and the subsoil should be porous enough to permit the roots to penetrate to the saturated soil beneath. If the soil be water-logged less than three feet below the surface, alfalfa is unable to utilize its deep-feeding root system and the best results are not obtained.

Gently rolling land has the advantage in not having low, wet, flat spots in it where ice may form, a situation which is as detrimental as is standing water to a good stand of alfalfa. When the plants are dormant the field will stand flooding, but ice will kill them. It is essential that, if a soil is low and subject to standing water, complete drainage be provided before alfalfa is seeded.

Preparing the Soil

A soil intended for alfalfa growing must not be acid, because alfalfa will not thrive on acid soil; its roots absorb the plant food in the soil for its nourishment, but this is not enough to satisfy the plant—it must have abundance of nitrogen; this it secures from the air by means of nitrogen-gathering bacteria which live in nodules on its roots. These bacteria cannot live in an acid soil and in such a soil it is impossible to establish them by artificial transplantation or otherwise, therefore, ground limestone must be applied in quantity sufficient not only to sweeten the soil but to keep it sweet for a term of years, if success in growing the crop is attained.

Where It Will Grow Best

It was formerly thought that only certain soils would grow alfalfa. Now it is known that, while it prefers rich, loose limestone soils, it will grow luxuriantly on strong, stiff limestone clays, once they are made dry with tiles and fed with manure. It grows on sand, when the sand is made rich. It grows away from limestone, when the land has been sweetened with lime. In fact there is hardly a type of soils in the United States that is not now growing alfalfa, under culturists who persist in giving the conditions that it needs and deserves.

Alfalfa is the most energetic soil-enricher of all the clovers, but it must find fertile soil on which to begin, and cannot, like sweet clover, begin on wornout lands. Once it is well established, however, its ability to build up the field on which it stands, and the adjoining fields (from the manure made by feeding the hay), is nothing less than marvelous.

Worth $65 an Acre as Fertilizer

The New Jersey experiment station has shown that the yield of an acre of good alfalfa contains fertilizing ingredients that in the shape of commercial fertilizers would cost on the market at least $65.00. So it can readily be seen that once alfalfa is established on a farm, and the hay fed thereon, and the manure saved, that farm must very rapidly increase in productiveness.

Several Crops a Year

Alfalfa is a perennial, enduring on well-drained soil from five to fifty years with one sowing. It may be cut from three to five times a year, and will yield, in the regions of the corn-belt, from three to six tons of hay per acre.

The composition of alfalfa hay is such that it has almost the same nutritive value as wheat bran, and may be substituted for wheat bran in the ration of clover with good results. As a feed for all classes of live stock it is unexcelled.

Every animal upon the farm loves alfalfa, and thrives upon it.

As a pasture plant alfalfa has no equal in the amount which animals will gain from an acre of it; as much as 600 pounds of pork per acre being frequently reported where hogs have grazed it. It is also the best horse pasture known, and is sometimes used as a pasture for sheep and cows.

Alfalfa Seeding

Much needless mystery has been made of the question of seeding alfalfa. The best authorities now agree that the matter can be summed up in four words: Lime, drainage, humus, inoculation.

1. Lime is necessary on soils not naturally of limestone formation or filled with limestone pebbles. The importance of this is seen more and more each year.

2. As to drainage, there is no use in planting alfalfa on any soil where water may ordinarily be found at a depth of less than three feet. The alfalfa may grow all right until its roots strike this water, but then it will probably die.

Preparation of Ground—Proper Seeding

3. Fertile soil contains enough humus. Impoverished soils may be so deficient that special preparation must be made before alfalfa can possibly succeed. Stable manure, where obtainable is the very best thing for adding the proper humus to the soil; and its use wherever possible is advised. It might be best to use this a year in advance of sowing alfalfa, and follow with clean cultivation to overcome what weeds might be sown with the manure, or, a good way is to top-dress the alfalfa during its first winter, using a manure spreader and applying the manure evenly without large chunks that might smother the young plants. On impoverished soils, experts recommend preparation for alfalfa one or two years in advance, growing such crops as crimson clover, mammoth clover, cow peas, Canada field peas, or soja beans, and preferably turning them under or else pasturing them off, so as to give the soil the greatest benefit possible from them.

4. Inoculation is recommended, not that it is always necessary, but because it is an inexpensive process and in five cases out of six it will actually pay. The methods are described later on.

Having determined that the soil is sweet, well drained, and sufficiently supplied with humus, the only questions that remain are: 1, the preparation of a good seed-bed; 2, sowing at the proper time of year; and, 3, the use of good seed.

Carefully Prepare Seed-Bed

For the seed-bed, it is essential that the ground be carefully fitted. It must be plowed, unless it is old ground, such as corn stubble, which may be thoroughly disked instead of plowing. It is better to firm the subsoil a little, so that only the surface is really loose. This, because if the entire soil is very loose, the seed may be planted too deep, and also because the alfalfa seems to prefer the subsurface being a trifle firmed.

Time of Seeding

Alfalfa may be seeded in the spring, summer, or autumn, the time varying according to locality, the personal experience of the grower, or the nature of the previous crop or nurse crop, as it is generally called. In the Central States many successful growers sow alfalfa about the first week in April, using beardless spring barley as a nurse crop. Many farmers, using oats as a nurse crop, prefer to sow alfalfa later.

Where beardless spring barley may be used as a nurse crop, alfalfa experts advise the early spring seeding in the states of Ohio, Indiana, Illinois, Michigan, New York and part of Pennsylvania. The late seeding is preferable in some of the New England states, in Virginia, and in the states south of the Ohio River. In these states the alfalfa thrives better when sown late than when sown early. The farther south one goes the later it is safe to sow alfalfa. There are growers in Georgia, Alabama, Mississippi, Louisiana and Texas who seed as late as November 1st, but their winters are so mild that the alfalfa is never winter-killed, and it comes on the next spring in just as good shape as if it had been sown earlier in the season.

Seeding in August

In Illinois success has been attained by seeding in August, as by seeding at this time land can be utilized that has already produced a crop of grain, and the fall weeds are not so injurious. The young plants also begin to make their growth after the hot days of summer are past and are not so likely to be burned from excessive sun-heat. In ordinary years the young plants will reach sufficient size and maturity to stand the winter without loss, though if sown too late it is likely to get winter-killed because of immaturity at time of frost.

Seeding in August gives opportunity to harvest a crop of rye, wheat, oats, or potatoes and to thoroughly eradicate the weeds and grasses that are ever a serious trouble.

A good rule is to seed at such time as will enable the young plants to have made a vigorous growth before freezing weather.

Method of Seeding

If the farmer owns a special grass drill that can be adjusted to the sowing of alfalfa seed he will find it very satisfactory; if not, a press wheat drill is the most practical machine for putting the seed in the ground.

The amount of seed to the acre varies between four and thirty pounds. The smaller amount of seed is sometimes sown when seed is desired from it, as it seeds better not to be thick.

There are 14,448,000 seeds in a bushel of alfalfa seed. Therefore to sow half a bushel to the acre would put 166 seeds to the square foot. To sow fifteen pounds would put on eighty-three seeds. Seeing that this is true, it is evident that it is more essential to have good seed and good distribution of the seed than to use a great amount of seed. About twelve to sixteen plants to the square foot are all that will ever stand, and on rich, deep soils they will not long endure even that much crowding.

Crops are often taken from the seed the same year, though alfalfa is not at its best until the third year; but it will yield very heavy crops the second year.

The depth that the seed should be sown varies according to the soil. In the Middle West where the soils are mostly black, loose, and loamy, the seed is sown about one and one-half or two inches deep, except in early spring sowings, when it is not necessary to sow so deep.

Good Seed Important

Good seed is of great importance. Alfalfa seed coming from South America, or Arabia, will grow all right the first year, and then will probably winter-kill the first winter, especially in any of the northern states. It has been found that the very best seed in the world, that which is freest from dangerous weeds and which possesses the greatest vitality, is produced in our own United States, particularly in the northwestern part. Also it is better if grown on non-irrigated soil.

Kansas, Iowa, the Dakotas, Nebraska, Wisconsin, and Minnesota produce the alfalfa seed that is most highly esteemed by expert growers of the Middle West.

Clipping the Young Alfalfa

Weeds often come up to crowd the young alfalfa. To destroy these weeds clip the field with the mower, setting it to run as close to the ground as possible. There may come a yellowish rust that attacks the leaves. To destroy this clip close with the mower. Therefore when preparing land for alfalfa, see to it that the field is left as smooth as practicable, so that the mower may run over it in security. This trouble of the leaf rust will not be so much in evidence in western lands as in the lands east of the Mississippi river.

Time to Cut Alfalfa

Some successful growers cut alfalfa when about one-fifth of the plants begin to show bloom. A somewhat better way of ascertaining the proper time is to watch for the buds at the base of the plants and cut when they appear above the ground. These buds are the beginning of new stalks, and their appearance indicates that the plant is ready to make another crop.

Secure Crop Quickly

If possible, all of one crop should be cut down within a week, seeing that it is all ready at one time. Thus the hay is secured in best condition and the following crop is benefited by being given the space in which to grow.

Wide cut mowers are convenient things in the alfalfa field. After the hay is laid down the haymakers should keep close watch, and as soon as it shows signs of drying and before the leaves fall from the stems, it should be raked into small windrows and permitted to cure in part in the windrow, or in the cock, according to where you are and what sort of climate you must work in. Alfalfa dried in the swath loses many of the leaves when raked.

Stack or put in the barn when cured, which will be in one to four days, according to weather conditions.

Inoculation

All legumes like the clover plants have tiny bacteria that work on their roots, forming "nodules." These bacteria draw nitrogen from the air, and both supply the plants with it and also add it directly to the soil. Without these bacteria the legumes will soon perish, although most of the legumes seem to find their proper bacteria in almost any soil. Alfalfa is an exception, and it nearly always pays to supply its bacteria artificially.

Alfalfa Soil from Another Field

This may be done very inexpensively. Obtain soil from some near-by alfalfa field and apply it at the rate of one hundred pounds per acre, sowing it late in the afternoon and harrowing it in immediately, before allowing the sun to strike it. This is the best way to inoculate. Soil from around the sweet clover or melilotus roots answers equally well. The government will furnish inoculation of another sort free; this usually succeeds, but not always.

Another excellent way is to sow a few pounds of alfalfa seed with your red clover. After the clover is plowed up, sow alfalfa, and you will probably have the field inoculated.

Earth From an Old Field

Alfalfa will not thrive without the right bacteria upon the roots. Nor will milk sour without the bacteria of souring being present. And yet milk sours, and yet women folks do not add bacteria, knowingly, to their milk. Nevertheless, milk will sour more rapidly if a little sour milk is added to the sweet at milking time. So alfalfa will surely become inoculated by natural processes if grown on fit soil, but it will the sooner become inoculated if earth from an old field is dried in the shed and pulverized and sown broadcast over the field and harrowed in. There are also cultures available that are used to inoculate the seed. They are sometimes of use. They often fail to be of use, through some defect in the method. It is not worth while to bother with cultures.

It is worth while, when sowing alfalfa on land that has never had it before, to use soil from either an old alfalfa field or a sweet clover (melilotus) patch. The bacteria that live on melilotus are the same that live upon alfalfa.

Do not sow either alfalfa or bacteria upon soils not a fit home for bacteria. That means that the land should be dry, sweet, and stored with vegetable matter.

Field Management

It is sometimes a good practice to harrow a new alfalfa field after the plants have attained a height of three or four inches in order to stir the top soil; this, of course, depends upon the condition of the soil. Young alfalfa plants are easily affected by a compact surface soil. Set the harrow teeth at quite an angle and weight them down so they will penetrate the land. This treatment will pull out some small weeds and cover up others, but will not pull out many alfalfa plants because of their long tap-root.

Do Not Mow Too Low

When clipping alfalfa, do not set the mower too close to the ground, because the plant must not be cut off below the lowest branch. Alfalfa plants require considerable top growth to balance their great root development and too close mowing will put them out of balance, kill some, and decrease the vitality of others so they cannot survive the summer.

How Treat Land After Crop

Harrowing or disking after cutting is necessary to successful alfalfa growing. Use a spring-tooth harrow or disk; if a disk is used, set the disks rather straight, but, in any event, see to it that the land is well dug up, the crowns of the alfalfa plants split, and the grass and weeds destroyed. Do this thoroughly. It will not injure the alfalfa. It will help its growth, and at the same time retard the growth of grass and weeds. When a grower fails to give his alfalfa field this treatment he usually finds that the grass and weeds take the field in a few years.

Penetrate Soil Deeper

When the alfalfa is three years old the disk may be weighted and made to penetrate the soil at least two inches and this should be followed by a smoothing harrow to level the land again.

It is absolutely necessary that the soil be thoroughly stirred in order that the air may penetrate to the roots of the plants where the bacteria can gather from it the nitrogen so necessary to the growth of the plant.

Advantages of the Alfalfa Crop

What, briefly, are the advantages of the alfalfa plant over other forage crops?

First, that it roots so deep in the soil. It is safe to say that alfalfa roots penetrate as deep as there is any soil. If the soil is three feet deep, the roots will penetrate three feet. If the soil is ten feet deep, the roots will go down ten feet. And if the soil is thirty feet deep, the roots will go down thirty feet. Thus the whole soil is utilized.

Second, the alfalfa plant uses the whole of the growing season, and it is the one crop that the farmer grows that does this. Soon after the corn is planted the alfalfa is ready to cut—by the first of June in most of the region of the corn belt, earlier in the South, and not much later anywhere. Thus the soil has yielded one crop almost before the corn has begun to take hold at all.

Three or Four Crops a Season

Third, there are three or four crops of alfalfa to the season. Thus it uses to the best advantage all of the soil, all of the season from early spring till late fall, and all of the soil moisture. Of no other crop can this be said.

Fourth, and best of all, the forage that the alfalfa plant produces is the richest and most palatable hay food that the farmer can grow.

Comparison of Corn and Alfalfa

It is hard for a farmer in the heart of the corn belt to consider seriously the demands of any other crop, says Mr. Joseph E. Wing, the Ohio alfalfa expert, yet if he will study alfalfa a little he will see that he is accepting no inferior plant when he puts it in place of some of his corn fields. Alfalfa will make, on good land in that region, a total yield during the season of from four to eight tons per acre. Taking six tons as a standard, and calling the hay worth $8.00 per ton, there is thus derived from that acre a gross revenue of $48.00. To equal that amount the field must yield 120 bushels of corn which must sell at forty cents per bushel. Or, put it according to the amount of available and digestible carbohydrates and protein produced by these crops, the alfalfa will yield fully three times as much protein as the corn and double the carbohydrates, too! Furthermore, the alfalfa is not depleting the soil, while corn is a robber crop.

FORAGE CROPS

A mixed crop of oats and Canadian field peas is recommended as being valuable for pasture, for cutting as a soiling crop, and when mature, for hay. When planted in succession of about two weeks, the first planting being as early in the spring as conditions will permit, a succession of highly nutritious forage is produced which is greatly relished by stock.

The following directions for growing this crop may be given:

The crop loves a mellow loamy soil, but will grow fairly well on soils ranging between heavy clay and sand and produce liberal returns. For early forage land should be selected which is moderately open and porous, so that the plowing may be done early. Those soils containing a comparatively large percentage of clay can better be used where late forage is desired.

Land should be plowed deep, and in cases where sod is inverted the jointer should be used. While the land is still rough, as left by the plow, the peas should be sown broadcast at the rate of about 1 bushel per acre. Then the harrow should be used and the land thoroughly fitted and fined for oats. This fitting will cover the peas deeply and well, and it is to secure this deep covering that the peas are sown directly after the plow.

Oats may then be sown broadcast or drilled in the ordinary way, using 1 to 1½ bushels of seed per acre. If the soil is somewhat porous, sandy, or gravelly, the roller may follow the seeding. But should there be a somewhat large percentage of clay in the soil then the rolling would better be deferred until the young plants are 2 or 3 inches high, when the roller can be used without danger of producing injurious soil conditions due to packing.

Comparative tests were made at Cornell a few years ago of oats and peas; oats; barley and oats; and barley. The average yields were nearly 12, 8, 7.5, and 6.5 tons per acre, respectively. The estimated value of the food constituents per acre, calculated on the dry matter, is given as $63.11 for oats and peas, $57.99 for oats alone, $43.39 for oats and barley, and $31.99 for barley alone.

THE SILO ON THE FARM

Illustration Showing How Silo Is Made, Location, How the Silo Is Filled From Power Which May Be Supplied by Automobile

Keeping in mind the fact that ensilage is literally fodder kept in a pit, the principles requisite for a good silo are more easily grasped.

The first requisite of a silo is that it must be air-tight, with smooth perpendicular walls that will allow the mass to settle without leaving open spaces along the walls, and the walls must be firm so as not to spring with the pressure of the mass as it settles. The bottom may be of clay, but the use of stones covered with cement is preferable. The foundation should be set below the frost-line, in northern climates the wall should run down five feet below the surface.

Since the object is to have the least possible surface exposure, the round form of silo is preferred. It must be emptied from the top in even layers, so as to expose the silage as little as possible to the action of the air.

As it must be visited twice a day, the silo should be located near the barn, but not where the odors from the open silo will penetrate the stable at milking time to affect the milk. The roof should have a cupola for ventilation, and in extremely cold weather this will be closed to prevent freezing. If it can be placed south or east of the barn the danger of the silo's being blown over by wind-storms is lessened.

In building of brick it is economy to use brick of a high grade. Strength, durability, and a smooth inside wall, impenetrable to the air, are objects aimed at.

A stave silo built on the principle of a stave water-tank or cistern may be bought ready to place on a cement foundation, such silo of 16x32 feet dimensions, but without foundations, costing about $300; the cost of a concrete silo of equal dimensions is $300 to $500.

It is advisable for three or four farmers located close together to buy a silage cutter together. Then by helping each other they are able to fill the silo for the group at the minimum expense. The cutters used to fill medium to large size silos have a capacity of from 10 to 15 tons per hour.

Silage is pre-eminently a cow food; steers may be fed to advantage 40 to 50 pounds a day; in moderate quantities, up to about 20 pounds a day, it is good to mix with the rations of horses; sheep-men look upon it with great favor, especially for ewes at lambing time; and opinions vary as to its value for hogs. Silage must always be fed in connection with some dry roughage, and it is always well to avoid feeding it excessively.

Corn is the preferred ensilage crop, and the favorite time for cutting is when it has reached the roasting-ear stage; the slow-growing varieties are best, as they continue to grow later and produce a greater yield of ensilage to the acre than those varieties grown chiefly for the grain. Next to corn come clover and alfalfa, followed by sorghum, cow-peas and soya-beans, with beet pulp near the front rank where easy access to a sugar beet factory is to be had. Oats, rye, kafir corn, and milo maize are used in different sections.

How Big a Silo Shall Be Built

Allow 40 pounds of silage per day for each mature cow and half this amount for each head of young stock. Figure on feeding the silage for about 200 days each year.

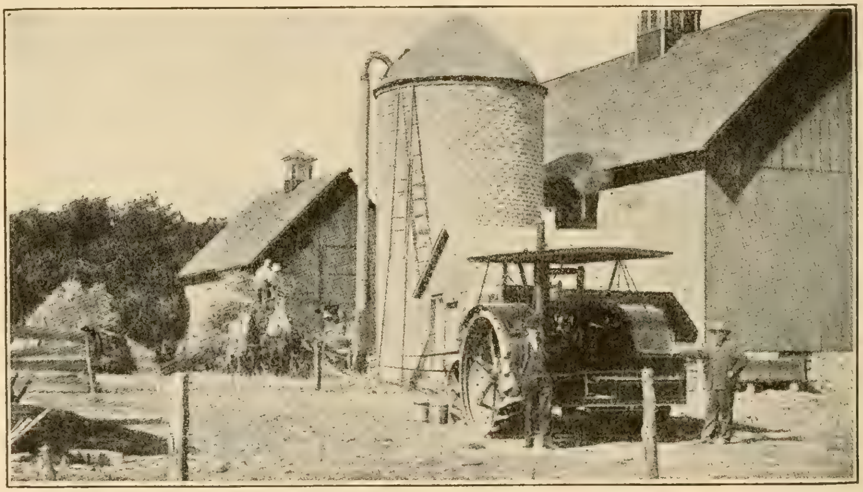
The deeper the silo in relation to its diameter and the tighter and better it is built, the smaller the allowance that must be made for spoiled material. In any case it is wise to build a bigger silo than you absolutely need, to allow for shrinkage, an unexpectedly long season, and a possible increase in the size of your herd.

The Dairy Division of the Department of Agriculture has for a number of years conducted experiments in growing, preparing, and feeding silage. The results of these investigations have lately been summed up:

Cost accounts kept for silos on thirty-one farms in Wisconsin and Michigan show that the cost of putting up a ton of silage varies from 46 to 86 cents. Cost records kept for eighty-seven silos in various parts of the United States give 87 cents a ton as the average cost of filling.

"The cost of producing a ton of silage," explains the Department, "varies, of course, with the acre yield, the cost of growing an acre, and the cost of filling the silo. In general, it may be stated that from $1.50 to $4 a ton represents the limits between which most of the silage is produced."

As to the use of silage the Department draws from its records of various feeding experiments with various classes of cattle several rations that have been found to give satisfactory results.



Filling the Silo. Special Power Machine at Right. Belt Extending from Machine to Silage at the Left.

Amount of Silage Consumed in Different Parts United States

Amount of Silage Required Per Day

Rations for dairy cows are classified in accordance with milk yield and the quality of this yield, as follows:

For a 1300-pound cow yielding 40 pounds of milk testing 3.5 per cent: Silage, 40 pounds; clover, cow-pea, or alfalfa hay, 10 pounds; grain mixture, 10 pounds.

For a cow of the same weight yielding 20 pounds of 3.5 per cent milk: Silage, 40 pounds; clover, cow-pea, or alfalfa hay, 5 pounds; grain mixture, 5 pounds.

For a 900-pound cow yielding 30 pounds of 5 per cent milk: Silage, 30 pounds; clover, cow-pea, or alfalfa hay, 10 pounds; grain mixture, 11 pounds.

For a cow of the same weight yielding 15 pounds of 5 per cent milk: Silage, 30 pounds; clover, cow-pea, or alfalfa hay, 8 pounds; grain mixture, 5 pounds.

Mixture of Grain for Silage

A good grain mixture to be used in a ration that includes silage and some sort of leguminous hay is composed of: Corn chop, four parts; wheat bran, two parts; linseed-oil meal or cottonseed meal, one part.

The Department classifies rations for fattening steers according to locality. The following rations have been found highly satisfactory for a 1000-pound steer:

For the Corn Belt. Ration 1: Corn silage, 25 pounds; corn stover, 6 pounds; cottonseed meal or oil meal, 3 pounds; shelled corn, 14 pounds.

Ration 2: Corn silage, 25 pounds; clover hay, 7 pounds; shelled corn, 15 pounds.

For the Eastern States where hay is very high and corn is relatively high: Corn silage, 30 pounds; corn stover, 6 pounds; cottonseed meal or oil meal, 4 pounds; shelled corn, 10 pounds.

For the South where cottonseed meal is of moderate price and cow-pea hay is raised on the farm. Ration 1: Corn silage, 35 pounds; cow-pea hay, 8 pounds; cottonseed meal or oil meal, 7 pounds.

Ration 2: Corn silage, 30 pounds; cottonseed hulls, 12 pounds; cottonseed meal, 7 pounds.

For the West where corn cannot be raised. Ration 1: Kafir silage, 30 pounds; prairie hay, 3 pounds; cottonseed meal, 3 pounds; kafir meal, 10 pounds.

Ration 2: Kafir silage, 25 pounds; alfalfa, 7 pounds; kafir, 15 pounds.

Pays for Itself Yearly

It is claimed by some that "one could build a silo, fill it, and destroy it every year, and still make money on the investment." It is stated authoritatively that "the man who feeds ten head of cattle without a silo for a year loses the cost of the silo and still has none."

A pioneer silo company reports:

"A silo will pay for itself in a single year, and the years to come it is a clean and usually an enormous profit.

"And the silo is the best means yet found of conserving the land. It gives value to products of the farm that without the silo would be wasted, and by stimulating feeding as against the sale of grain it puts the farmer in a position to turn out the finished product, the marketable live stock and dairy products.

"In turning out only the finished product the farmer keeps the manure, the fertilizing value. He sells product and not farm, and the latter keeps on developing and getting better from year to year instead of undergoing a gradual but sure impoverishment."

Feeding Value of Silage

It is well known that cows produce more milk when fed green, succulent feed than when kept on dry feed. June is usually the month when the cows yield their largest flow of milk. This is due chiefly to the fact that they have been turned onto fresh, green pastures where they get an abundance of succulent food. In cold winter months, when the pastures are frozen and covered with snow, silage, properly preserved, furnishes feed that is highly nutritious and keeps the cow's digestion and appetite in the best possible condition. Silage is recognized by successful dairymen as absolutely necessary for economical milk production.

Advantage of Corn Silage

The superiority of corn silage over dried corn fodder lies in the fact that the silage is juicy and appetizing; cattle relish it when they would reject ordinary dried fodder. The Vermont Experiment Station made a careful test of the relative values of corn silage and dried fodder. The results were:

24,858 pounds of green fodder corn, when dried and fed with a uniform allowance of hay and grain, produced 7,688 pounds of milk.

24,858 pounds of green fodder corn, converted into silage and fed with the same ration of hay and grain as was fed with the dried fodder, produced 8,525 pounds of milk.

Four acres planted in corn will produce about 40 or 50 tons of silage, with only an average crop. Forty tons will feed ten cows 200 days, allowing 40 pounds of feed per day for each cow.

BUSHELS OF CORN ON AN ACRE

How Many Bushels of Corn Can Be Grown on an Acre?
Shelled Corn Produced on One Acre, 160.4 Bushels

For four years the Bowker Fertilizer Company conducted special scientific crop growing contests for cash prizes. The first two were corn contests in which $1000 was offered each year for the largest yields of crib-dry corn containing not over 12 per cent moisture. Each contest acre was a measured acre and the crops were harvested in the presence of several disinterested witnesses. The samples were sealed and sent to the Massachusetts Agricultural Experiment Station, where they were tested for moisture, protein, fat, and carbohydrates. This resulted in a very interesting and instructive comparison between the flint and dent varieties, but the greatest value of this analysis was the determination of amount of moisture and of cob.

One of the samples analyzed as high as 73 per cent of water and cob, and in order to determine the actual winners producing the greatest dry food value per acre, all the yields were reduced to the 12 per cent moisture basis. The result was that many crops which were large at harvest time were fairly well down the column in the final report.

Contest of 1910, 27 Contestants

There were 27 contestants who finished in the 1910 contest. The grand prize crop as harvested was 126.8 bushels and when reduced to a basis of 12 per cent moisture it was found to be 103.23 bushels of crib-dry shelled corn. This crop was grown by Perley E. Davis, Granby, Mass., and was awarded the grand prize of $500.

Contest of 1911, 39 Contestants

In the contest for 1911 there were 39 contestants who finished. The grand $500 prize was won by Lester S. White, Collinsville, Conn., with a yield of 160.4 bushels, harvest measure, which by analysis was found to equal 112.68 bushels of crib-dry shelled corn per acre, containing 12 per cent moisture.

The average yield of the two first prize winners in the two contests was 107.95 bushels of crib-dry shelled corn containing 12 per cent moisture. The average yield of all the contest acres for two years was 59.05 bushels crib-dry shelled corn per acre. The average yield for the New England States in which this contest was held was 45.5 bushels to the acre as harvested, and for the entire United States 27.4 bushels to the acre, field run. When we read about these phenomenal yields of 150, 200 and 250 bushels of shelled corn per acre, we should ask what was the moisture at harvest time. Water and cob should not be reckoned as shelled corn, and were not in these tests.

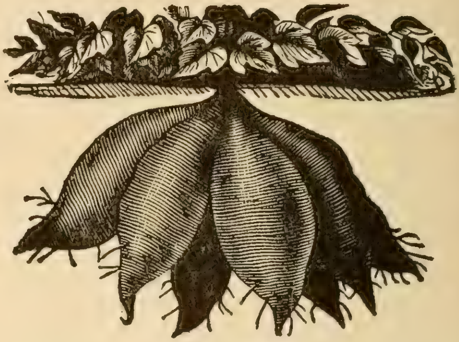
IRISH POTATOES

POTATOES

SWEET POTATOES

How Prepare Soil, Cultivate and Raise Potatoes

Irish Potatoes



Sweet Potatoes

Irish Potato Culture

The value of a potato crop to the grower depends mainly upon the yield and the size, form, and healthy condition of the tubers. Perfect tubers find ready sale at the best prices, while the yield in itself has no effect on the transaction, and the chemical composition of the potatoes is, as a rule, disregarded by the buyer, unless they are to be used in starch-making.

In every 100 pounds of average potatoes there is 75 pounds of water. Of the remaining 25 pounds about 20 pounds is carbohydrates (starch and sugar, etc.) and 2 pounds protein.

The chief value of the potato for food as well as for starch-making lies in the starch which the tubers contain. The protein content is low and the carbohydrates high, and, therefore, potatoes are especially valuable for use in connection with foods rich in protein, such as lean meat, eggs, etc., to furnish a well-balanced diet.

Thorough tillage of potatoes is highly important, but intensive tillage alone is not sufficient to produce a large yield. Intensive tillage may be overdone. During a drought only so much tillage is necessary as shall keep the surface mulch loose and thoroughly dry. The drier the surface layer of soil the more slowly will moisture be absorbed by it from the layers of subsurface soil.

Harrowing potato land before the plants appear above ground is considered a wise practice. In an important series of experiments conducted by the New York Cornell Station, the use of Bordeaux mixture in nearly every case resulted in an increased yield, even when blight was not prevalent, and thorough spraying with this material is therefore recommended as a general practice. Pruning potato vines to one main stem was not beneficial.

Potato machinery, while not yet perfected, has reached such a degree of perfection that where potatoes are grown upon any considerable area special potato machinery should be provided. Implements should be purchased which are found adapted to the local conditions.

There is no royal road to success with potatoes. Methods of procedure which are applicable during one season must be modified to meet the requirements of another season; treatment of one soil might be radically wrong when applied to another soil. Success will be attained only by thorough familiarity with the plant and its habits of growth, and then conditions must be made to meet as completely as possible the requirements of the plant. The general adoption of the common potato as an article of food by the Irish people in the middle of the 18th century, gave the name Irish to this potato.

The Sweet Potato

A sandy loam and fourteen to sixteen weeks of hot, growing weather is what the sweet potato asks. If to this can be added lots of rain in the early part of the season and comparatively dry weather for ripening and harvesting, a crop of 200 bushels to the acre may be expected, with proper cultivation. Crimson clover in the North and cowpeas in the South are good crops to precede the sweet potato because they add nitrogen and humus, subsoil the earth, and leave it in good physical condition, and aid in keeping the soil mellow as is required for well-formed sweet potatoes. Ten tons of manure, with 25 lbs. of nitrogen, 50 lbs. phosphoric acid, and 75 lbs. of potash, may be used per acre as fertilizer. Well-rotted horse manure, ten to twenty tons to the acre, is also good. Deep plowing increases the yield of potatoes, but has a tendency to make long potatoes, which are not as popular in the markets. The fertilizer should be applied in the furrow after the land is plowed, then harrowed in. Next, the land is thrown up into beds or ridges three or four inches high, with the centers of the ridges about three and one-half feet apart, and the sets planted eighteen inches apart in the row.

The sweet potato may be planted like the Irish potato, by cutting in pieces and planting the "eyes," but the usual way is to plant in a hotbed. The tubers are placed quite close together, but not touching, and covered with manure; they are then covered with three inches of soil, the bed covered with glass, and watered as often as necessary. The shoots, or sets, that develop should not be transplanted to the field until the ground is quite warm—about the first of June in the latitude of Iowa or Michigan. The vines or runners may be lifted from time to time with a pitchfork if there is a tendency to root. Good cultivation is absolutely necessary. It should be frequent and shallow, to save moisture.

Black-rot is to be guarded against. If a plant shows a leaf that is black it should be dug up and destroyed, and, as the germs of black-rot remain in the soil over winter, the same ground should not be used again for sweet potatoes.

Digging may be begun as soon as ripe, to supply immediate demands, but the main crop is not dug till about time of first frost. The potatoes should be stored in a well ventilated place in the shade.

Yams are a variety of sweet potatoes, popular in the South and are larger than the ordinary sweet potato. Both are natives of America.

POTATOES ON AN ACRE

To test the possibilities of an acre the Bowker Fertilizing Company, of Massachusetts, has been giving prizes for best productions, with following result on potatoes:

Potatoes Produced on One Acre, 545.4 Bushels

For two years there were conducted potato contests based on quality and size as well as yield, which is a new way of deciding such contests. The crops were planted on measured acres and dug and sampled in the presence of witnesses. The samples were tested for cooking qualities by three experts, a woman (professor of household economics), a professor, and a potato merchant, who boiled and baked the potatoes under precisely the same conditions and scored them accordingly. They also scored the potatoes for appearance, size, etc. Finally the potatoes were tested for starch by Professor Phillip H. Smith of the Massachusetts Agricultural Experiment Station at Amherst. All the judges and the chemists worked on samples marked with the contestant's numbers. The names were unknown to them.

There were 33 contestants who finished in the 1912 contest. The grand prize crop was 545.4 bushels, 77 per cent of which (419 bushels) were table size, scoring perfect as to cooking qualities and almost perfect in appearance, shape, etc. This crop was grown by L. A. Littlefield, Lincoln, Penobscot County, Maine, and was awarded first prize of $200.

In the contest for 1913, New England was divided into two zones. There were 20 contestants who finished. The first prize of $100 in the northern zone (Me., N. H., and Vt.) was won by Alvah B. Cobb, Lee, Penobscot County, Maine, for a yield of 502.6 bushels, 75 per cent of which (378 bushels) were table size, scoring 85 out of a possible 100 in cooking quality and appearance.

Mr. Cobb's acre was planted on a rocky loam soil which yielded about one-half ton of hay in 1912. The rows were 33 inches apart and seeded with Green Mountain cut by guess, planted 10 inches apart in the rows by machine and covered 4 inches deep. The piece was cultivated three times and hoed three times and sprayed twice with Pyrox. 2,200 lbs. of a patented Potato Manure was applied, 400 lbs. broadcast and 1,800 lbs. in the drill. No other fertilizer or dressing of any kind was used. The entire crop weighed 30,156 lbs. which is equal to 502.6 bushels.

The second prize was awarded to O. B. Keene of Liberty, Maine. His acre was planted on dark loamy soil which produced in 1912 without any fertilizer about 800 lbs. of hay to the acre. In 1913 it was planted in potatoes in rows 32 inches apart and seeded with Cuban Multipliers, cut 1 to 3 eyes, dropped 8 inches apart in the rows, covered 6 to 8 inches deep and was cultivated by bushing 3 times with a heavy brush harrow until perfectly level. When the plants broke through the ground they were horse hoed and buried, and in 11 days buried again. He applied 1,900 lbs. of commercial fertilizer, 1,000 lbs. in the drill, the balance broadcast. The yield was 418.5 bushels, of which 72.01 per cent were table size, 26.41 per cent under 4 ozs., and 1.58 per cent above 12 ozs.

The first prize in the southern zone (Mass., R. I., and Conn.) was won by A. W. Butler, Brockton, Mass., whose yield was 363.1 bushels from one acre, 72.51 per cent of which (263 bushels) were table size, scoring 82 out of a possible 100 for cooking quality and appearance.

Mr. Butler's acre was planted on "rocky loam" which produced about 2½ tons of hay per acre in 1912, which had been grown on barn manure. The rows were 36 inches apart and seeded with Green Mountains cut to two eyes, planted 14 inches apart by hand, and covered 3 inches deep. The piece was cultivated five times by machine. First when the potatoes were two inches high and then about every two weeks. The acre was sprayed with Pyrox when the plants were about 4 inches high and then about every two weeks until they had been sprayed five times altogether. 2,800 lbs. of commercial fertilizer was applied, 2,100 lbs. broadcast and 700 lbs. in the drill.

One important fact has been demonstrated by these contests; namely, that apparently the starch content has no dependable relation to cooking quality. For example, Mr. Keene, who took second prize in the northern zone for 1913, scored 102 for starch and 17 on mealiness, while Mr. Demeritt, who took third, scored only 60 on starch but got 18 on mealiness. Thus these results confirm the conclusion that high starch content does not necessarily mean high cooking quality, and that the only way to determine cooking quality is to make an actual cooking test of representative samples. Over one-half of the crops ran over 300 bushels of potatoes per acre.

The average yield of potatoes in New England for the northern zone is only 156 bushels per acre and in the southern zone 107 bushels, and 89 bushels per acre for the whole country. The average yield in this contest was 383.1 bushels per acre for the northern zone and 247.4 bushels for the southern zone.

These corn and potato contests, which have been conducted for four years on strictly scientific lines, have attracted not only the attention of practical farmers but have been followed with great interest by the Department of Agriculture, and by scientific men and economists throughout the country.

FERTILIZERS FOR SALE BY ALL NURSERYMEN

Keep Up Fertility in the Soil.

Potato Manure. Its great potash content makes it very valuable for use on all root crops, also on fruit lands. It works well on grass and fruit in connection with bone meal, and makes a valuable and lasting top-dressing. 2 per cent ammonia, 5 per cent available phosphoric acid, 10 per cent potash. Per sack, 200 lbs., $3.50; per ton, $28.

Potato and Truck Special. A high grade fertilizer for the vegetable and truck garden; especially recommended for beans, corn, eggplants, tomatoes, potatoes, and all other root crops. Sacks of 200 lbs., $3.75; per ton, $32.

Poudrette (Native Guano). Contains all the elements necessary for plant life; used extensively by market gardeners. An excellent lawn top-dressing. Per 100 lbs., $1.50; 200 lbs., $2.75; 1,000 lbs., $9.50; per ton, $18.

Salt, Agricultural. For top-dressing asparagus beds. Apply very early in spring at the rate of 800 to 1,000 pounds per acre. 200 lbs., $1.50; per ton, $10.

Sheep Manure, Pulverized. A pure natural manure, unequaled for mixing with potting soil, for lawns, general vegetable and flower garden fertilizer, for making liquid manure water, or for any purpose where quick as well as lasting results are wanted. 2-lb. package, 15c; 5 lbs., 25c; 10 lbs., 40c; 25 lbs., 75c; 50 lbs., $1.25; 100 lbs., $2; 500 lbs., $9; 1,000 lbs., $16; ton, $30.

Soot. The leading growers recommend the use of soot to produce plants of a good healthy color; destroys insects and grubs in the soil, and should be spread on greenhouse staging and flower beds; then stir the soil. 25 lbs., $1; 100 lbs., $3.50.

Tobacco Stems. A lawn covering for winter. It not only acts as a protector, but imparts large quantities of ammonia and drives away insects and moles. Bbl., $1; bale, $2; ton, $12.

FERTILIZERS

Fertilizers for Farm, Lawn, Garden and Greenhouse

For Sale by All Nurserymen and Seed Dealers.

(Fertilizers marked * can be sent by Parcel Post at purchaser's expense. Consult your local postoffice for rate from wholesale houses. We give approximate prices at which the fertilizers may be bought from dealers because users will thus be enabled to estimate the cost.)

Animal Base and Potash Compound. For all crops. Superior for broadcasting in spring prior to harrowing. 2 per cent ammonia, 8 per cent Av. Ph. Acid, 2 per cent potash. Per sack, 200 lbs., $3; per ton, $23.50.

Blood (dried). One of the quickest acting fertilizers, being immediately soluble. 5 lbs., 30c; 10 lbs., 50c; 50 lbs., $2; 100 lbs., $3.75.

Bone Flour. Ground very fine; excellent for pot plants or beds where an immediate effect is wanted. 5 lbs., 25c; 100 lbs., $2.50; bbl. of 200 lbs., $4.50; ton, $40.

Pure Bone Meal. A standard fertilizer for all purposes, safe and effective. 3 lbs., 15c; per ton, $33.

Ground Bone. A little coarser than above; excellent for grass plots, gardens, etc. Apply 400 to 600 lbs. to the acre. 5 lbs., 25c; 25 lbs., 75c; 50 lbs., $1.25; sack of 200 lbs., $3.75.

Coarse Bone. Ground coarse, for grape borders and poultry. A superior fertilizer to use when planting shrubbery and trees. 5 lbs., 25c; 50 lbs., $1.25; per ton, $36.

Cattle or Cow Manure, Shredded. For garden, lawn, and greenhouse, and especially good to mix with compost and for water lilies. 100 lbs., $2; 500 lbs., $9; 1,000 lbs., $16; per ton, $30.

Clay's Fertilizer. (Imported.) Recommended to all who grow either fruit, flowers, or vegetables. Should be used in potting soil and spread on staging of greenhouses planted with flowering plants. 28 lbs., $2; 56 lbs., $3.50; 112 lbs., $6.50.

Hardwood Ashes. Good dressing to apply to orchards. Should be applied late in fall or early spring. This is a splendid fertilizer for the lawn and garden, containing all of the fertilizing elements except nitrogen. If used on the lawn at the rate of a ton or more per acre as a first application, and annual dressing of 300 pounds afterwards, will insure a thrifty growth of dark color, exemption from ill effects of dry weather, and freedom from weeds. It is also beneficial to vegetables and field crops, and especially recommended to cabbage and onion growers. 100 lbs., $1.50; per bbl., $2.50; per ton, $22. Special price by the car.

Kainit (German Potash Salt). Analysis: 12 per cent actual potash. Excellent to apply in fall or winter on lawns or vegetable garden. Apply 1,000 lbs. per acre. 100 lbs., $1.25; 200 lbs., $2; per ton, $15.

Land Plaster. Much used in composting or mixed with guano, etc. 100-lb. bag, $1; bag, 200 lbs., $1.50; per ton, $10.

Lime (hydrated). For lawn and field use where the ground has become sour. 100 lbs., $1; ton, $12.50. Special price by the car.

Manure. Fresh horse manure by carload. Write for prices.

Muriate of Potash. 80 per cent pure, equivalent to 48 to 50 per cent actual potash. A high grade fertilizer and one of the best orchard fertilizers known. 25 lbs., $1; 50 lbs., $1.75; 100 lbs., $3. Original sacks of 200 lbs., $5.50.

Nitrate of Soda. A fertilizer for all crops. It is very quick in action and hastens maturity of crops fully two weeks. Being quickly soluble, it should not be applied until the plants are above ground, when 200 to 300 lbs. mixed with land plaster is sufficient per acre. Nitrate of soda does not exhaust the land. 5 lbs., 25c; 25 lbs., $1.25; 50 lbs., $2; 100 lbs., $3.50. Large quantities, prices on application.

"Peerless" Plant Food for House Plants. (Odorless.) May be used either dry or liquid, the latter much the best, being immediately available to the plant, and less danger of giving an overdose. Put up in ½ and 1-lb. packages. Directions for use with each package. 15c and 25c; by mail, 25c and 40c.

"Peerless" Plant Food for Lawn and Garden. (Odorless.) A high-grade fertilizer. Apply at any time during spring or fall. It will restore lawns to full luxuriance, and acts quickly in the vegetable garden, where it can be applied at any time during the growing season. 5 lbs., 25c; 10 lbs., 40c; 25 lbs., $1; 50 lbs., $1.75; 100 lbs., $3; 200 lbs., $5; ton, $45.

Peruvian Guano Substitute. For potatoes and all vegetables. Since it is difficult to procure pure Peruvian guano, this is a good all-round fertilizer. 5 per cent ammonia, 6 per cent available phosphoric acid, 7 per cent potash. 50 lbs., $1.50; 100 lbs., $2.50; sack of 200 lbs., $4; ton, $36.

Weights and Measures

Troy Weight

24 grains..................1 pwt.
20 pwt...................1 ounce
12 ounces..................1 pound

Used for weighing gold, silver, and jewels.

Apothecaries' Weight

20 grains................1 scruple
3 scruples.................1 dram
8 drams..................1 ounce
12 ounces.................1 pound

The grain, ounce, and pound in this are the same as in Troy Weight.

Avoirdupois Weight

27 11-32 grains..........1 dram
16 drams...............1 ounce
16 ounces..............1 pound
25 pounds............1 quarter
4 quarters...............1 cwt.
2,000 pounds..........1 short ton
2,240 pounds..........1 long ton

The avoirdupois pound contains 7,000 Troy grains, the Troy pound 5,760 grains.

Dry Measure

2 pints..................1 quart
8 quarts..................1 peck
4 pecks.................1 bushel
36 bushels.............1 chaldron

Liquid Measure

4 gills...................1 pint
2 pints.................1 quart
4 quarts...............1 gallon
31½ gallons.............1 barrel
2 barrels...........1 hogshead

Time Measure

60 seconds.............1 minute
60 minutes...............1 hour
24 hours..................1 day
7 days..................1 week
28, 29, 30, or 31 days..1 calendar month (30 days, 1 month in computing interest.)
365 days..................1 year
366 days.............1 leap year

Circular Measure

60 seconds...............1 minute
60 minutes..............1 degree
30 degrees.................1 sign
90 degrees............1 quadrant
4 quadrants 12 signs, or 360 degrees................1 circle

Mariners' Measure

6 feet..............1 fathom
120 fathoms....1 cable length
7½ cable lengths.........1 mile
5,280 feet........1 statute mile
6,085 feet........1 nautical mile

Long Measure

12 inches....................1 foot
3 feet........................1 yard
5½ yards.......................1 rod
40 rods...................1 furlong
8 furlongs.........1 statute mile
3 miles................1 league

Cloth Measure

2¼ inches....................1 nail
4 nails..................1 quarter
4 quarters..................1 yard

Paper Measure

24 sheets..................1 quire
20 quires.....1 ream (480 sheets)
2 reams..................1 bundle
5 bundles....................1 bale

Miscellaneous

3 inches..................1 palm
4 inches.................1 hand
6 inches..................1 span
18 inches.................1 cubit
21.8 inches..........1 Bible cubit
2.5 feet...........1 military pace

Square Measure

144 square inches..1 square foot
9 square feet...1 square yard
30¼ square yards...1 square rod
40 square rods..........1 rood
4 roods................1 acre
640 acres...........1 square mile

Surveyors' Measure

7.92 inches...............1 link
25 links..................1 rod
4 rods.................1 chain
10 sq. chains or 160 sq. rods ....1 acre
640 acres ....1 sq. mile
36 sq. miles (6 miles square).......1 township

Measurements of Acre.

220 feet by 198 feet.......1 acre
110 feet by 396 feet.......1 acre
60 feet by 726 feet.......1 acre
120 feet by 363 feet.......1 acre
300 feet by 145.2 feet.......1 acre
400 feet by 108.9 feet.......1 acre
210 feet by 210 feet.......1 acre

The last is approximate.

Cubic Measure

1,728 cubic inches.1 cubic foot
27 cubic feet....1 cubic yard
128 cubic feet..1 cord (wood)
40 cubic feet.1 ton (shipping)
2,150.42 cubic inches...1 standard dry bushel
231 cubic inches....1 standard liquid gallon
268.8 cubic inches...1 standard dry gallon
1 cubic foot..about 4-5 of a bushel.

BARNYARD MANURE
SAVING MANURE

MANURES

USE OF MANURE
COMPOSTS

In those regions where fertilizers are extensively used it is of the greatest importance to know with reasonable exactness the varying fertilizer requirements of different soils and crops in order to get the greatest return from the fertilizers applied. A commonly accepted method of securing this information is by means of plat experiments, in which the crops are grown on the different soils with the various fertilizers whose merits are to be tested. Many of the experiment stations have carried out extensive experiments of this kind, in coöperation with farmers, on a great variety of soils and crops; but the safest plan is for each farmer to test the question for himself on his own soil, using the results of experiments on other soils only as general guides in the use of fertilizers in default of such tests.

Barnyard manure is easily the most important of all fertilizers. A well-kept manure heap may be safely taken as one of the surest indications of thrift and success in farming. Neglect of this resource causes losses, which, though little appreciated, are vast in extent. Waste of manure is either so common as to breed indifference or so silent and hidden as to escape notice.

Loss from Wasting Manure

Experiments indicate that if the horses, mules, cattle, hogs and sheep in the United States were kept in stalls or pens throughout the year, and the manure carefully saved, the approximate value of the fertilizing constituents of the manure produced by each horse or mule annually would be $27, by each head of cattle $20, by each hog $8, and by each sheep $2. In the aggregate the value of these fertilizing materials would reach a fabulous amount—considerably over two billion dollars.

Discussing this subject from a practical standpoint, a well-known expert has suggested the sum of $250 as a conservative estimate of the value of the manure produced during seven winter months on a small farm carrying 4 horses, 20 cows, 50 sheep and 10 hogs.

It should be clearly understood that when the farmer sells meat, milk, grain, hay, fruits, vegetables, etc., from his farm, or neglects to save and use the manure produced, he removes from his soil a certain amount of potash, phosphoric acid, and nitrogen that must be restored sooner or later if productiveness is to be maintained.

A useful table has been compiled showing the amount and value of fertilizing constituents carried away from the soil in different products. We learn from this table that the farmer who sells a ton of hay, for example, sells in this ton of hay fertilizing ingredients which, if purchased in the form of commercial fertilizers, would cost him about $5.10; that if he sells 2,000 pounds of wheat he sells an amount of nitrogen, phosphoric acid, and potash which it would cost him $7.91 to replace in his soil in the form of commercial fertilizers. Or, looking at it from a somewhat different standpoint, a farmer who sells, for example, $10 worth of wheat sells with it about $2.63 worth of the fertility of his soil. In other words, when he receives his $10 this amount does not represent the net receipts of the transaction, for he has parted with $2.63 worth of his capital, that is, of the stored-up fertility of his soil, and if he does not take this into the account he makes the same mistake a merchant would make should he estimate his profits by the amount of cash which he received and neglect to take account of stock.

Benefit from Feeding Stock

If the farmer, instead of selling off his crops, feeds them to live stock on the farm as far as possible, a large proportion of this fertility, as has been shown above, is retained on the farm; and "if the business of stock feeding is carried to the point where feed is purchased in addition to that grown on the farm, a considerable addition may in this way be made to the fertility of the farm at an almost nominal cost, since it is assumed that feed will not be bought unless its feeding value will at least pay its cost." This system of indirect purchase of fertilizers in feeding stuffs is practiced largely in England and other European countries, and accounts for no small share of the profits of stock raising in those countries.

But it is evident that these advantages will not be secured unless the manure produced is carefully saved and used.

The growing of more leguminous plants, such as beans, peas, clover, lupines, etc., as a means of increasing the fertility of the soil, is strongly recommended both from theoretical and practical considerations. But the leguminous crop is best utilized when it is fed out on the farm and the manure saved and applied to the soil. The greatest profit is thus secured, and nearly the same fertility is maintained as in green manuring. The farmer should mend his system so that the barnyard manure will be as well cared for as any other farm product. Loss from surface washing, leaching, fermentation, and decay should be guarded against. Then the feeding of richer food will mean richer manure and better and cheaper crops.

Dislike Changing Old Habits

It is hard to persuade the farmer to abandon time-honored practices and adopt methods with which he is unfamiliar. He also hestitates about incurring the necessary expense of building suitable receptacles for the storage of manure, frequently assuming that this is greater than it really is. As the expert quoted above says, "The new idea that the manure should be as carefully preserved from unnecessary waste as any other product of the farm is hard to put in practice, after having for forty years stored the farmyard manure under the eaves upon the steep hillside which forms one border of the running brook."

Management of Manure

Barnyard manure rapidly undergoes change. When practicable to remove the manure and spread it on the field at short intervals the losses of valuable constituents need not be very great, but when the manure must be stored for some time the difficulties of preservation are greatly increased.

Loss of Manure Value

The deterioration of manure results from two chief causes, (a) fermentation, whereby nitrogen, either as ammonia or in the gaseous state, is set free, and (b) weathering or leaching, which involves a loss of the soluble fertilizing constituents. The loss from destructive fermentation may be largely prevented by the use of proper absorbents and by keeping the manure moist and compact. Loss from leaching may be prevented by storage under cover or in water-tight pits. Extremes of moisture and temperature are to be avoided, and uniform and moderate fermentation is the object to be sought. To this end it is advisable to mix the manure from the different animals thoroughly in the heap.

Use of Manure

The disposition to be made of the manure of the farm (both fermented and unfermented) must be determined largely by the nature of the crop and soil. Where improvement of the mechanical condition of the soil is the principal object sought, fresh manure is best adapted for this purpose to heavy soils and well-rotted manure to light soils. Where prompt action of the fertilizing constituents is desired, the best results will probably be obtained by applying fresh manure to the light soils, although excessive applications in this case should be avoided on account of the danger of "burning out" of the soil in dry seasons. Fresh manure has a forcing effect, and is better suited to early garden truck, grasses, and forage plants than to plants grown for seed, such as cereals, or to fruits. Direct applications to root crops, such as sugar-beets and potatoes, or to tobacco, often prove injurious. The manure should be spread when carried to the field, and not left in heaps to leach.

The rate of application must be determined by individual circumstances. As a rule it is better to manure lightly and frequently than to apply a large amount at longer intervals.

Composting With Other Material

One of the best ways to utilize barnyard manure is to apply it in connection with such fertilizing materials as supplement its fertilizing constituents. These materials may be either composted with the manure or used separately, except in case of a nitrate, such as nitrate of soda, which should never be composted with barnyard manure on account of danger of denitrification and loss of nitrogen. As is well known, barnyard manure is lasting in its effects, and in many cases need not be applied so frequently as the more soluble and quick-acting superphosphates and potash and nitrogen salts.

MAKE SOIL
HOLD MOISTURE

DRY FARMING

HOW PREPARE
TOP SOIL

Method of Holding Moisture to Prevent Evaporation

Dry farming, also called arid farming, is the production of crops without irrigation in regions having a limited rainfall. As a rule, where dry farming is practised the annual rainfall ranges from about 8 to 20 inches. There are vast semi-arid areas in the West which cannot be brought under irrigation, and this method of farming is an attempt to utilize some of these lands for other agricultural purposes than mere grazing.

Farming without irrigation was practised in numerous localities by the early settlers, and while in many cases these efforts were successful, in many more they were failures. They demonstrated, however, that under certain conditions dry-land agriculture may be successfully practised.

The experience gained during the last thirty or forty years and the results of the recent work in this connection carried on by several experiment stations and other agencies, indicate that, by means of special methods of cultivation requiring, in some instances, special tools and implements, and by the use of drought-resistant crops and varieties, arid farming may be placed on a much safer basis than heretofore. The fact should not be disregarded, however, that under semi-arid conditions without irrigation crop failures are bound to be much more frequent than in regions of adequate rainfall; and it is generally conceded that, in order to establish a permanent home on the dry lands of the western plains, provision should be made for the irrigation of a small area on which vegetable food for the family and forage for the stock kept may be grown with certainty every year to tide over the seasons of possible crop failures on the unirrigated portion of the farm.

The experts of the Utah Experiment Station have pointed out that the two main problems in dry farming are (1) the absorption and retention of moisture by the soil, and (2) the culture of crops which make satisfactory growth and reach maturity with very little water. The soils of Utah, generally very deep and quite uniform to great depths in chemical and physical properties, are well adapted to dry farming on account of their great moisture-retaining capacity. The station estimates that under ordinary conditions the average annual rainfall of 12 inches can be held in 3¼ feet of soil of this description. In this method of farming, therefore, the soil should be treated to facilitate the absorption and retention of as much as possible of the moisture that falls upon it.

Data secured by the station indicate that on the dry farms of the State 750 pounds of water is required to produce 1 pound of dry matter in the plant, while experiments conducted in this country and in Europe show that under humid conditions only about 500 pounds is sufficient for the same purpose. A rainfall of 12 inches amounts to 1,361 tons of water per acre, or a quantity sufficient, if entirely used by the crop, to produce 27 bushels of grain, even on semi-arid lands.

Large areas within the State have an annual precipitation of 12 inches or more. During the summer months the proportion of sunny days reaches 80 per cent, and the average temperature from May to September is about 65° F. The highest average day temperature, which is from 100° to 105° F., occurs in June and July. Under these climatic conditions dry farming is considered feasible.

The best yield of corn secured on the Utah experimental farms amounted to 25.93 bushels of ear corn and about a ton of stover per acre.

On all these farms fall planting of alfalfa proved a failure, while spring planting produced a stand wherever tried. To obtain a good stand of alfalfa under similar conditions, the Colorado experts recommend plowing the ground early in the season 5 to 8 inches deep, harrowing it until it is well packed, and planting the seed after the ground is thoroughly wet. If a crust has been formed on the surface by the rain, this should be broken up with a light harrowing and the seed then sown broadcast. If a drill is used, the seed should be drilled in as soon as the ground shows dry on top. The sowing may be done at any time, while the ground is in good condition, between May 10 and July 15.

A study of the principles of dry farming made by the Utah Experiment Station indicates that fall plowing is essential for the purpose of opening the soil and permitting the storage of the fall and winter precipitation, and that deep plowing and, in many cases, subsoiling is desirable, as the water is stored deeper and is not so readily driven off by the direct rays of the sun. In general wheat was the most successful crop grown.

On account of the limited quantity of soil moisture thin seeding is recommended, as it was found that sowing from one-half to 1 bushel of wheat per acre gave the best results. Fall sowing is preferred to spring sowing, as the crop beginning its growth in the fall is at a better advantage to make use of the soil moisture.

Experience has shown that sowing broadcast when the surface is dry does not place the seed deep enough in the soil to assure favorable conditions for germination, but that by the use of the press drill this difficulty is largely overcome. Dry farming does not generally produce long straw, and the harvesting for this reason is done with the header.

The main purpose of summer fallow on dry farms is to store the water of two or more seasons in the soil for the production of a crop, and hence this is practiced more frequently where the rainfall is limited than where it is heavier. The Colorado Station gives the following directions for this practice: "After the snows of winter have melted in the spring plow the ground at least 7 to 8 inches deep. Level this down with the harrow and packer, following this process with a smoothing harrow forming an earth mulch to check evaporation. This mulch should not be too fine, as the winds of the plains will tend to rift the soil or blow the earth mulch entirely away. If possible stir the surface soil from 2 to 4 inches every 10 to 15 days throughout the summer. Allow no crust to form after summer showers, as this will increase the evaporation of the sail moisture."

In additon to the crops noted above, kafir corn, sorghum, millet, field peas, brome grass, meadow fescue, and western wheat grass have given good results on the plains. As regards the quantity of water required for maturity, the common field crops are placed in the following ascending order: Corn, potatoes, wheat, barley, field peas, oats, alfalfa, and red clover.

Spray Formulas for Insect Destruction

Paris Green.—Use 5 ounces to 50 gallons of water. Always add 1 pound of fresh burned lime. In small quantities use 1 heaping teaspoonful to 3 gallons of water.

Lead Arsenate.—Use 3 pounds to 50 gallons of water. In small quantities use 1 tablespoonful to 1 gallon of water. Lead arsenate sticks better than Paris green.

Poisoned Bait.—Mix dry 1 peck of bran and 3 tablespoonfuls of Paris green. Moisten the bran with sweetened water. Don't get it too wet. Distribute this in small amounts through your garden for cut-worms.

Hellebore.—Mix 1 part hellebore with 3 parts flour, and keep in closed vessel over night. This may be used on vegetables or fruits that are about ready for the table. Hellebore may be steeped in water, 1 ounce to 1 quart of water, for spraying.

Contact Poisons — For Sucking Insects

Lime Sulphur.—Slake 20 pounds of fresh burned lime. Add 15 pounds of sulphur. Boil in 25 gallons of water for one hour. Dilute to make 50 gallons. This is a winter spray only.

Kerosene Emulsion.—Dissolve 1 pound of hard soap in 2 gallons of hot water. Remove from fire and add 4 gallons of kerosene. At once churn violently, until a creamy emulsion is formed. Dilute this with water so as to have 10 per cent of kerosene oil in your spray for summer use, or 15 per cent for winter use.

Tobacco Water.—Cover tobacco stems with hot water. Allow to stand over night. Dilute the resulting liquor with 3 parts of water.

Pyrethrum.—Mix with 3 parts of flour and keep in closed vessel for several hours.

Soap Solution.—Use 1 pound of soap to 8 gallons of water. This will be found excellent for plant lice, scale on house plants, or for any of the soft-bodied insects.

Whale Oil Soap.—For winter use dissolve 2 pounds in 1 gallon of water. For summer use dissolve 1 pound in 4 gallons of water.

SPRAY
ORCHARD TREES
AVOID WORMY
FRUIT

FERTILIZERS AND SPRAYING

SUCCESSFUL
FRUIT GROWERS
SPRAY
FREELY

Among Latest Improvements Is Spraying Fruit Trees

In no department of human endeavor has there been greater advancement made in the last half century than in machinery for increasing the production of food by cultivation of land. Comprising plowing, harrowing, threshing, and culture of crops. But along with improvement in machinery has come knowledge of constituents of soils by which greater crops have been made possible by application of certain ingredients to the soil by which growth of vegetables and fruits have been increased.

It is within the past fifty years that scientists have been giving attention to the chemistry of soils. Within that time they have studied the effect of different manures, and in case of scarcity of animal manures, what could take the place as a substitute. Study and experiment have evolved many fertilizers which materially aid in producing greater yield of crops, while demonstrating that at the very head of all fertilizers stand the animal manures from horses, cattle, hogs, sheep, and poultry.

Among the substitutes are guano made from bird droppings where waterfowl and various birds have roosted on certain islands in the South seas for thousands of years. Certain stone, known as phosphate rock, and straw of various vegetables known as legumes which highly fertilize the soil when plowed in with the common earth.

Chemists have discovered that plants are susceptible to change from the application of certain materials which they name as follows:

Nitrogen. This is a material which is heavily in the air. Thus the pumpkin vine which comes from a quart of earth, creeps along the ground, and produces several large pumpkins without diminishing the amount of the quart of soil—comes from the air.

Nitrogen is the principal factor in the production of all vegetable growth. Thus, the immense crop of corn that stands on the field, which a short time ago was bare land, without a blade of vegetation, the hay fields, the fruit and grain fields, heavy with the approaching harvest, all attest the wonderful power and accomplishment of nitrogen and other fertilizers.

Phosphates are restored to the soil by adding some form of decayed or burned animal matter.

Commercial Fertilizers

The theory of the use of commercial fertilizers is that crops cannot reach perfection in quality and quantity at the time they are supposed to mature, without plenty of available plant food. If this is not found in the soil or supplied by the barnyard manure, it must be fed to the crops in the form of one of the commercial fertilizers.

A careful study of the present conditions of farming in the United States indicates, however, that as a rule the manure produced on the farm is not sufficient to maintain its fertility, and that the need for artificial supplies is real, though the amount required may be considerably reduced by careful management.

The ordinary methods of grain farming, one-crop farming, market gardening and fruit growing result in the rapid depletion or exhaustion of our fertile soils; hence the need of supplies of plant food from sources outside the farm in order that maximum crops may be produced.

The important points for the farmer to recognize may be summed up as follows:

1. Commercial fertilizers are mainly valuable because they furnish the elements—nitrogen, phosphoric acid, and potash—which serve as food, not as stimulants.
2. The kind of farming in the past and the demands for special products in the present make their use necessary in profitable farming.
3. In order to use them profitably the farmer should know:
   (a) That nitrogen, phosphoric acid, and potash are the essential manurial constituents.
   (b) That the agricultural value of these constituents depends largely upon their chemical form.
   (c) That these forms are contained in specific products of a well-defined character and composition, and may be purchased as such from dealers and manufacturers and may be mixed successfully on the farm.
4. The agricultural value of a fertilizer bears no strict relation to the commercial value; the one is determined by soil, crop, and climatic conditions, the other by market and trade conditions only.
5. The variations in the composition and value of manufactured fertilizers which contain the three essential constituents are due to variations in the character and in the proportion of the materials used.
6. The ton basis alone is not a safe guide in the purchase of these commercial fertilizers. Low ton prices mean either low content of good forms of plant food or the use of poorer forms. Fertilizers, high grade both in quality and quantity of plant food, cannot be purchased at a low price per ton.
7. The best fertilizers cannot exert their full effect on soils that are too dry or too wet, too compact, or too porous. They can furnish but one of the conditions of fertility.
8. The kind and amount to use should be determined by the value of the crop grown and its power of acquiring food.
9. A definite system or plan should be adopted in the use of fertilizers; "hit or miss" methods are seldom satisfactory, and frequently very expensive.

ABOUT SPRAYING

Cost of Spraying

Written for Farm and Garden News, by A. C. McLean

The actual cost of my spraying operations in an apple orchard of six hundred trees, approximately twenty-five years old, is about $249. This is the average cost for the past two seasons—it varies a little each year, but can be taken for a guide. Of course in the localities where labor is cheaper the cost could be much reduced. Our labor here receives $1.75 per day of nine hours, and we pay $4 per day for teams.

The cost of material is reckoned on the basis of that bought by our Apple Club. We pay $6 per barrel for lime-sulphur and 7 cents a pound for arsenate of lead. For the winter application it takes four days with a crew of three men and one team, putting out five tanks of 150 gallons each of solution per day. Itemized cost is as follows:

Man and team, four days, at $4	$16.00
Two men four days, at $1.75	14.00
Gasoline and oil for engine	2.50
Lime-sulphur, 6½ barrels	39.00
Total	$71.50

We make four summer applications—one when the blossom buds show pink, one when they fall (three weeks later), and about a month after this for second brood of codling moth and sooty fungus. It takes three days for each of these applications with a team and three men putting out six tanks per day of 150 gallons each. Cost of these sprayings:

Man and team, three days at $4	$12.00
Two men three days, at $1.75	10.50
Gasoline and oil	1.75
Lime-sulphur	12.00
Arsenate of lead	1.89
Total	$38.14

This cost is for each time. The total cost of summer spraying would be $152.56. Adding to this the cost of our winter application and the wear and tear on spraying rig, $25 (that is 10 per cent depreciation), the total cost of a year's spraying would be $249.06. This makes the cost per tree $0.415. As to the profit derived from spraying, I have never left any trees unsprayed for a test. We are not running an experiment station, and I firmly believe that unsprayed trees are a serious menace as breeding places for insects and fungi, and I think they tend to make the results of spraying less beneficial. From my observation of unsprayed orchards, I should say that spraying is easily worth $5 per tree, if properly done. In this locality about 50 per cent of apples on unsprayed trees are either wormy or marred with fungus, and the drop is also much heavier, due to codling moth and scab. Again, by spraying you keep the foliage of the trees healthy, which greatly increases the size and quality of your fruit.

Power Sprayer on Ten Acre Orchard.

The benefit of careful spraying was shown by a talk with a neighboring fruit grower who does not spray. The variety of apples mentioned was Smith's Cider, which is a rather low-grade apple. My neighbor received $1.50 per barrel for his apples on the open market. We are getting $2.50 at the same time, and our yield on trees of the same age was fully 50 per cent more.

In an orchard of ten acres or more a power sprayer, in my opinion, is a very good investment. The work is not only done on time, but it is done as it ought to be done. It is very difficult to keep up a sufficient pressure on a hand pump to do good work for a considerable length of time—in fact, it is hard work on any hand pump I ever saw to keep over 100 pounds pressure for half a day. We tried using hand pumps, but our men wanted to quit after three or four hours pumping, and if we kept them at it for a longer time they wanted to look for another job. This is a consideration these days, with the scarcity of competent labor.

Another point is to get the work done when it should be. For instance, in spraying for codling moth, the time after the petals fall before the calyx leaves close, when the spraying must be done to be efficient, is often limited to five or six days, and is never over ten days for a given variety. Thus, should a stormy day or two intervene it is almost impossible to get your work done without an efficient power sprayer, unless men at the pump are changed frequently, as this spraying is one that is important to apply at a high pressure to force the spray material into the calyx cup. Again, looking at it from a business standpoint, gasoline is cheaper than labor. Two or three gallons of gasoline and a pint of oil will easily run an engine for a day at a cost of about 50 cents. While it is advisable to have a driver who might do the pumping, he loses considerable time in changing jobs, and, besides, the pressure is apt to run down on a hand pump, and it takes time to bring it up again. A driver is desirable either with a power rig or hand pump. With a steady pair of horses the rod men on a power sprayer can drive and do their work without losing any more time than changing from driving to pumping.

Figuring the cost of a power sprayer at about $250, for which you can buy a very good one, the actual cost for its use should be around $25 per year. With reasonable care nearly any of the good machines now on the market, made by a reliable firm, should give good service for ten years without much expense for repairs. I firmly believe that a power machine will be worth much more than this to any orchardist with ten acres of apples who wishes to raise first-class fruit.

LOCATED
NEAR A
CITY

MARKET GARDENING

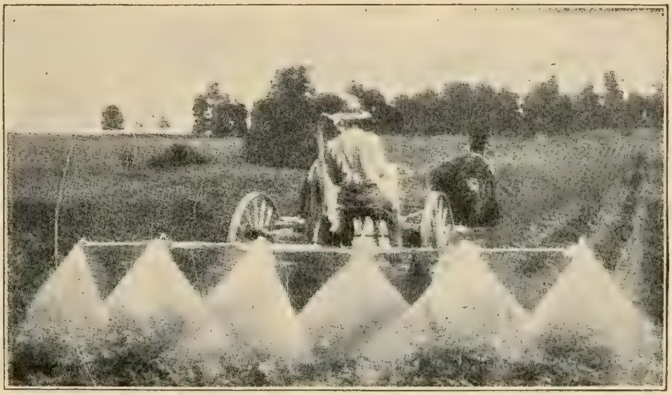
VEGETABLES
THAT SELL
BEST

How Manage a Successful Market-Garden Business

An idea of what may be done by market-gardeners near the thriving cities of the Mid-West is shown by a few extracts from an article by H. W. Doyle, in **The Country Gentleman** for June 27, 1914:

A short distance northwest of the city of Topeka, past a fine grove of maples and on a little eminence, lives F. P. Rude, market gardener. Going up the long driveway one catches a glimpse of a tennis court. Mr. Rude has sons, and those sons not only share in the business but enjoy the same pleasures that city boys enjoy. Rounding the house, you soon find yourself in a tidy barnyard with everything arranged neatly in place, all wagons and implements under cover.

F. P. Rude and Sons farm ninety-three of their one hundred and thirteen acres of Kaw Valley soil—probably as fine a soil as can be found anywhere, varying from a dark brown to a black sandy loam. This makes it possible to suit the crop to the soil. The early crops and sweet potatoes are grown on the lighter soils, the main crops and the cabbages, tomatoes and sweet corn on the darker soils.



Spraying the Potato Field Against Insects

The firm does a market-gardening business exclusively, and nearly all the farm, except twenty acres that are rented to nurserymen, is devoted to vegetables. There are two dairy cows, a few pigs for meat, and some pure-bred chickens for eggs, a few of which are sold. Four acres are devoted to alfalfa, and a little fruit is raised for home use. Five acres take in the farmstead, lawns and a small pasture. Occasionally a few acres of field corn are planted. The fodder from sweet corn supplies forage during about four months of each year. All other food and supplies for both man and beast are purchased.

The Rudes grow almost everything in the vegetable line except celery. "No one crop, or even a few crops, except perhaps potatoes, would be profitable under our conditions every year," said Mr. Rude. "It does not pay us to put all our eggs in one basket. Some crops that we find it wise to grow do not pay well in themselves, but they aid materially in selling other more profitable ones. Our customers look to us for a full line of vegetables, and we think it good policy to supply them."

Principal among the vegetables grown are Irish potatoes, cabbages, sweet corn, and sweet potatoes. The annual acreage of the different crops, though they vary somewhat from year to year, are about as follows:

Crop.	Acres.
Asparagus	2
Beans	4
Beets	3
Cabbage	18
Cauliflower	1
Peas	3
Peppers	2
Radishes	5
Irish potatoes	15
Sweet potatoes	7
Carrots	1½
Sweet corn	14
Cucumbers	1
Egg-plants	1
Lettuce	1½
Muskmelons	½
Watermelons	½
Onions	3
Parsnips	3
Rhubarb	3
Spinach	4
Squash	4
Tomatoes	5½
Turnips	8
Salsify, parsley and miscellaneous	1
Field corn	6

These total more than ninety-three acres, but it should be borne in mind that part of the area is occupied by two or more crops a season. The yearly volume of business amounts to something like $8,100.

Profitable Half-Acre of Hotbeds

From the half-acre devoted to hotbeds comes more profit than from any other like area on the farm. In fact, a considerable part of the income is derived from the sale of cabbage, tomato, egg-plant, pepper, and sweet potato plants. The only crop coming to maturity under glass is leaf lettuce, of which a limited quantity is grown.

Hotbeds are started late in January. The heat is furnished by fermenting horse manure, which is obtained in large quantities fresh from the livery stables in the city. The first hotbed crop is lettuce. A little later cabbage and cauliflower plants are started. Then when the lettuce is out of the way, which is in eight or nine weeks, the seeds of tomatoes, egg-plants, and peppers are sown. Finally about 350 bushels of sweet potatoes are bedded. Glass is used as a covering for all the hotbed crops except sweet potato plants, which are covered with muslin.

The capital invested is approximately as follows:

Land and buildings	$30,000
Sash and frames	1,000
Implements, wagons	2,000
Horses (12 head) and harness	2,000
Total	$35,000

Mr. Rude believes that a knowledge of markets and marketing has more to do with a truck grower's success than anything else. One has to know the demands of consumers to understand the market.

For thirty years he has toiled away in the Kaw Valley, and he is well-to-do. He started by working for the other fellow, and since striking out for himself his business has grown steadily. One son, who continues in the business, is married and has made a home for himself; the other remains at home.

Surely one must call this success: Health, a competence, and the boys on the farm.

HOW DESTROY INSECTS

INSECTICIDES

HOW TO USE THESE REMEDIES

The Result of Invention and Discovery

ANT EXTERMINATOR. A non-poisonous powder which, if scattered about their haunts or runs, will kill or drive away ants from lawns, etc. Box, 25c; by mail, 35c; smaller size, 15c.

APHINE. Aphine is a powerful insecticide, in a readily soluble form, which can be easily diluted with water and applied as a spray, wash, or dipping solution. It kills all insects. Green and black fly, thrips, red spider, slugs, ants, mealy bug, scale, etc. Price, 1 gill, 25c; ½ pint, 40c; pint, 65c; quart, $1.00; gallon, $2.50.

ARSENATE OF LEAD. (Paste form.) A poison taking the place of Paris green. Its great advantages are that it adheres well to the foliage and does not readily wash off by rain and does not injure tender foliage. It also remains well suspended in solution so that an even distribution can be obtained. It is white in color and shows just where it has been applied. Price, 1 lb. tin, 20c; 5 lb. tin, 90c; 12½ lb. pail, $2.00; 25 lb. bucket, $3.75; 50 lb. bucket, $7.00; 100 lb. keg, $12.00; 300 lb. bbl., $30.00.

BEECHCREOT. A wood preserving tree paint. It kills fungus and is shunned by borers and other insects. It prevents decay in the portions of trees injured by storm-torn limbs and applied after pruning it prevents bleeding. One gallon applied with a brush covers about 300 square feet. Price, 40c per quart; $1.25 per gallon.

BORDEAUX MIXTURE (liquid or paste). The best fungicide for curing and preventing black rot, mildew, blight, leaf curl, scab, or other fungoid diseases on fruits and plants. One gallon will make 50 gallons liquid. 1 qt., 40c; gal., $1.00; 5 gals., 4.50. (Dry.) Ready for use by simply adding water. Lb., 25c; postpaid, 40c; 5 lbs., $1.00; 28-lb. keg, $4.75.

BOROWAX. A complete protection against tree borers if applied in accordance with instructions, armorplates the tree at the point where the moth deposits its eggs and thus renders it immune to further infestation for several years. Quantity required: half to one pint to a tree according to size. Price, quart, 35c; half gallon, 60c; gallon can (boxed), $1.00; half barrel, $20.00; barrel, $35.00.

BUG DEATH. Is a non-poisonous, insect-killing powder that is in high favor for cabbage and tomato worms, potato and cucumber bugs, etc. It is applied with a duster bellows or powder-gun, at the rate of about 12 lbs. per acre. Price, 15c lb. (Parcel Post 2 lbs.); 3 lbs., 35c. (P. P. 4 lbs.); 5 lbs., 50c (P. P. 6 lbs.); 12½ lbs., $1.00; 100 lbs., $7.50.

IMPORTED GERMAN CATERPILLAR LIME. A highly recommended European remedy for the prevention of crawling insects from going up or down the trunks of trees; the claim is made that it prevents the laying of eggs on the bark, and the hatching of those already laid; prevents borers, scale, etc., and keeps all animals from gnawing the trees; it remains sticky and efficacious from 3 to 5 months, and is easily and cheaply applied. Apply with a paddle and spread evenly and thinly with a hard brush. For crawling insects, a ring of it 4 inches wide around the tree will suffice.

CLUBICIDE. An insecticide, germicide, and disinfecting fluid particularly valuable—in addition to its other uses—as a soil sterilizer. It destroys all soil insects, ants, worms, slugs, maggots, and fungous diseases and in consequence plants attain maximum root development and produce larger and better crops. It is a certain preventative of club roots, maggots, and root lice that infest carrots, onions, cabbage, asters, etc. Apply to the ground thoroughly once a week in proportion of 1 gallon of Clubicide to 1,500 gallons of water, gradually increasing the strength to one gallon of Clubicide to 1,000 gallons of water as the plants approach maturity. Price, 1 quart, 60c; gal., $2.00; 5 gallons, $8.00.

COPPER SOLUTION, AMMONIATED. A fungicide, the same as Bordeaux Mixture, the essential ingredient, "Carbonate of Copper," being dissolved in ammonia in this, while in Bordeaux it is counteracted by lime. Bordeaux is the cheaper and most popular for all ordinary purposes, but for late sprayings, when fruits are nearing maturity, or plants in bloom, Copper Solution is usually used, as there is no limy sediment to be washed off by rain or hand before marketing. Dilute 1 quart to 25 gallons of water; apply with sprayer, bellows vaporizer, or spray pump.

CUT-WORM FOOD. A sweetened poisoned compound alluring and palatable to cut-worms, cabbage worms, etc., in consequence when sprinkled around such newly set plants as are usually "cut off" by these depredators, they feast on cut-worm food and are destroyed. One pound is sufficient for about 100 plants. Price, 1 lb., 25c (Parcel Post 2 lbs.); 5 lbs., $1.00.

FIR TREE OIL. Fine spray for greenhouse and house plants affected with mealy bug, scale, red spider, black and green aphis, thrip, lice, worms, and slugs; an ounce makes 1 gallon. Small bottle, 25c; ½ pint, 40c; pint, 75c; quart, $1.25; gallon, $4.00.

FIR TREE OIL SOAP. A formula of the above Fir Tree Oil, prepared in soap form and preferred by some. It will do all claimed for the fluid preparation. One ounce makes a gallon of non-poisonous insect-killing liquid. Apply with syringe, bellows vaporizer, or sprayer.

FISH-OIL SOAP. (Whale Oil Soap.) Makes an excellent wash for trees and plants where insects and eggs affect the bark, and for smearing on the trunks of trees to prevent worms from crawling up. Price, 15c per lb. (Parcel Post 2 lbs.); 2 lbs., 30c P. P. 3 lbs.); 5 lbs., 60c (P. P. 6 lbs.); 25 lbs. and over at 10c per lb.

FLOWERS OF SULPHUR. Per lb., 10c; 10 lbs., 75c; 25 lbs., $1.50.

FORMALDEHYDE. Is of pronounced efficiency in destroying disease germs affecting both animal and plant life, and is successfully employed as a preventive of such fungoid diseases as potato scab, onion and grain smuts, musty corn, and other affected seeds, damping off of seedlings, club root of roses, etc., for the restraining of decay in vegetables, fruits, etc., and as an antiseptic wash and spray for bark diseases, canker and wounds in trees, and as a disinfectant for stables, kennels, poultry houses, etc. The dilution for most purposes is 1 lb. (1 pint) Formaldehyde to 15 or 20 gallons of water and 1 to 2 gallons of this dilution is required for treatment of every bushel of seed. Price of Formaldehyde (40 volume %), 1 lb. bottle, 40c; 5 lb. bottle, at 35c lb.; 10 lb. bottle, at 30c lb.; 50 lb. demijohn, at 25c lb.; 132 lb. carboy, at 23c lb.

FOSTITE. A famous new French preparation, containing silicate of magnesia and copper sulphate, powdered so minutely that when puffed or blown from a powder gun or bellows, it forms a cloud which settles evenly over foliage and plants, and is not only of inestimable value for all fungoid diseases—mildew, black rot, rust, leaf blight, etc.—but it is also a splendid insect destroyer. It is a powder. Blow on with a powder bellows or powder gun, while the foliage is moist, either with dew or after syringing, at the rate of 10 to 25 lbs. per acre for grapevines, for each application.

FUMIGATING AND DUSTING POWDER. Formerly sold under the name of Tobacco Dust. Destroys rose bugs, lice, cut worms, vine bugs, tomato worms, cabbage lice, and parasites of all descriptions. Should be applied when foliage is wet. Also a fertilizer for plants and vines. Will not burn or injure the plants. By parcel post, 1 lb. 22c, 5 lbs. 57c. By express, lb. 10c, 5 lbs. for 25c.

FUNGINE. An effective sulphurated remedy for mildew, rust, and other blights. A spraying material which does not stain the foliage. Prices, half pint, 30c; pint, 50c; quart, 75c; gallon, $2.00.

GRAPE DUST. Excellent for the prevention and destruction of mildew on plants. Per lb., 10c; 5 lbs., 35c.

HELLEBORE (Powdered, White). Less poisonous than Paris Green or London Purple, and safer to

Insecticides—Continued

use when fruit is nearly ripe. Dust over plants either pure or mixed with flour or plaster. If used pure, exercise care and do not dust it on too freely. If used as a liquid spray, dissolve one ounce in three gallons of water. Per lb., 30c; by parcel post, 45c; 5 lbs., $1.40; 10 lbs., $2.50.

HORICUM. Sulphur, lime, salt, etc., in such proportions as to make an effective wash for use as a preventive and cure for San Jose scale. Use 1 gallon to 20 gallons of water and spray trees when leaves are off. Per gal., $1.00; 5 gals., $4.50.

IMPORTED SCOTCH SOFT COAL SOOT. This prevents insect ravages and also acts as a stimulating fertilizer. Used in onion drills, radish beds, cabbage grounds, celery trenches, etc., it checks the attacks of grubs, cut-worms, etc. When scattered lightly, as a top-dressing around plants, it drives away insects that hide in the ground by day and lay their eggs near the roots. Supplied in 100-lb. bags only, price, $4.00.

KEROSENE EMULSION. One of the best insecticides for all soft-bodied sucking insects, either on plants or animals, feeding openly so as to be within reach of actual contact, such as plant lice, fleas, beetles, aphis, green fly, mealy bug, also for insects of fruit trees, including San Jose scale. Per qt. can, 40c; 1 gal., $1.00; 5-gal. can, $4.50.

LEMON OIL. An efficient insecticide for destroying all insects and soft scales. It is applied as a spray or wash and has an agreeable odor. ½ pint, 25c; 1 pint, 40c; quart, 75c; ½ gal., $1.25; 1 gal., $2.00.

NICO-FUME. Strips of paper strongly saturated with nicotine. These when suspended and lighted make one of the best and simplest methods of fumigating greenhouses. Use 4 to 6 sheets for ordinary house 100 ft. long by 20 ft. wide. Price, 24 sheets, 75c, postpaid, 90c; 144 sheets, $3.50; 288 sheets, $6.50.

NICO-FUME (liquid). A condensed preparation of tobacco, almost pure nicotine. Best spraying and fumigating preparation for greenhouse use, since it does not injure plants or blooms and kills aphis, red spider, and mealy bugs. Use one ounce in 10 to 15 gallons of water, and it will be even better if a pound of whale oil soap is added. Price, 4-oz. can, 75c; pint, $2.00; one-half gallon, $7.00.

NICOTEEN. An extract of tobacco, containing about 30 per cent nicotine. A most effectual, economical, and safe remedy for fumigating greenhouses. Use a scant tablespoonful to 1½ pints of water for each pan, which is sufficient, when vaporized by placing a hot iron in it, for 600 square feet of floor space. Price, pint bottle, $1.50; 2 oz. bottle, 40c.

NICOTICIDE. An extract of tobacco used in fumigation. The required quantity placed in a tin dish and evaporated by a spirit lamp placed underneath. An effectual remedy for insects in the greenhouse, window garden or frames. Price, 4 oz. can, 70c; ½ pint, $1.25; pint, $2.50; gallon, $18.00.

PARAGRENE. This poisonous insecticide is put on the market by a large manufacturer of Paris green, as something superior to the latter, and the claims have been verified by many who have tried it, including several Agricultural Experimental Stations. It is a compound of arsenic, sulphate of copper, and lime, while it is fully as poisonous as Paris green, it is more bulky, remains longer in suspension, making a more uniform mixture, and the lime counteracts the tendency to burn the foliage, which is such a fault with Paris green.

PARIS GREEN. A poisonous, insoluble powder indispensable on the farm or garden for preventing the ravages of potato bugs, codling moth, worms, caterpillars, slugs, and bugs. Applied as a powder, it should be mixed with plaster or flour, 100 parts to 1 part of Paris Green, in solution; mix 1 lb. in 200 to 300 gallons water. Price, ½ lb. package, 20c; 1 lb. package, 35c; 5 lb. package, $1.50; 28 lb. bucket, $7.00; 100 lb. keg, $25.

PERSIAN POWDER, OR BUHACH. (Cheap adulterated grades are worthless.) A most effective, non-poisonous impalpable powder, so fine that it penetrates the innermost crevices. For worms, flies, aphis, and almost all kinds of insects it is very effectual, suffocating them by filling up the breathing pores. Dry. Blow on with a bellows or gun. Lb., 40c; by mail, 55c.

PYROX. To kill all leaf-eating insects, destroying fungous growth, and rot. Mixes easily in cold water, should spray without clogging, and sticks to foliage, vegetables, fruits, and shrubs. Price, 1 lb., 25c; 10 lbs., $1.75; 100 lbs., $13.50.

SCALECIDE. Oil preparation for San Jose scale. Gal., $1.25; 5 gals., $4.00; 10 gals., $7.00.

SCALECIDE. The latest and best spray for San Jose scale, cottony maple scale, and Pear Psylla. It is not poisonous, being simply a mechanical preparation of petroleum oil that instantly mixes with cold water and is immediately ready to apply. 1 gallon of "Scalecide" to 20 gallons of water sprayed on your trees and bushes will kill every scale that it reaches without injury to tree or fruit if applied in late fall, winter, or early spring while the foliage is off. Safe and easy to apply. Price, 1 gallon can, $1.00; 5 gallon can, $3.25; 10 gallon can, $6.00; 50 gallon barrel, $25.00.

SLUG SHOT. A non-poisonous powder and a very popular insecticide; it requires no further mixing or preparation, easily applied and not injurious or dangerous to animals, the person applying it, or fruits and vegetables treated. Very effectual in destroying potato bugs and beetles, green and black flies, slugs, worms, caterpillars, etc. Apply with duster, bellows, or gun. 10 to 40 lbs. is sufficient for an acre.

SOLUTION OF COPPER. For trees, vines, or vegetables affected with rot, blight, or scab. Pint, 35c; quart, 60c; gal., $1.75.

SULPHATE OF IRON. A remedy for weeds on lawns. It is claimed that it will kill dandelions without injuring the grass. To be successful, liquid should be applied with a fine spray. 5 lbs., 25c; 10 lbs., 40c; 25 lbs., 75c; 50 lbs., $1.25; 100 lbs., $2.25.

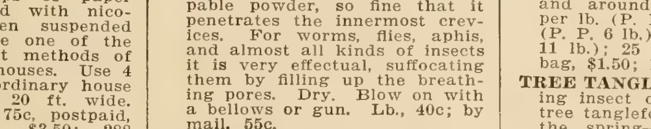
SULPHUR FLOWERS. Extensively used for mildew, by being blown on affected plants when moist—it is also mixed with paint applied to steam pipes. Apply with bellows or gun.

THRIP JUICE. For mealy bug, scale, thrip, codling moth, canker worms, beetles, caterpillars, etc. Per pint, 65c.

TOBACCO DUST, Fine. For green and black aphis, fleas, beetles, etc. Splendid fertilizer and preventive for insects in the ground and around roots. Price, 10c per lb. (P. P. 2 lb.); 5 lbs., 30c (P. P. 6 lb.); 10 lbs., 50c (P. P. 11 lb.); 25 lb. bag, 85c; 50 lb. bag, $1.50; 100 lb. bag, $2.50.

TREE TANGLEFOOT. No crawling insect can pass a band of tree tanglefoot. Apply early in the spring—before the caterpillars commence to crawl—and again in the fall if troubled with the fall Canker worm. One pound for a six-foot band 4 inches wide, 1/16-inch thick. Prices, 1 lb. can 30c; (Parcel Post 2 lb.); 3 lb. can, 85c (P. P. 4 lb.); 10 lb. can, $2.65 (P. P. 11 lb.); 20 lb. can, $4.80.

WORM ERADICATOR. For immediately removing worms of every kind from lawns, garden plots, flower pots, etc., without injury to the most delicate plant or flower. Mix two tablespoonfuls with one gallon of water, and use freely with a watering can. The worms will immediately rise to the surface of the lawn or pot, and should at once be picked up and burned, as, if left about they would injure birds or fowls.



ORCHARD BLESSING

By John G. Whittier

This day two hundred years ago,
  The wild grapes by the river's side
And tasteless groundnuts trailing low,
  The table of the woods supplied.

Unknown the apple's red and gold,
  The blushing tints of peach and pear;
The mirror of the river told
  No tale of orchards ripe and rare.

Wild as the fruits he scorned to till,
  These vales, the idle Indian trod;
Nor knew the glad creative skill
  The joy of him who toils with God.

O painter of the fruits and flowers!
  We thank thee for thy wise design,
Whereby these human hands of ours
  In Nature's garden work with thine.

Give fools their gold and knaves their power;
  Let fortune's bubbles rise and fall;
Who sows a seed or trains a flower,
  Or plants a tree, is more than all.

For he who blesses most is blest;
  And God and man shall own his worth
Who toils to leave as his bequest
  An added beauty to the earth.

FRUIT GROWING

Among the profitable occupations of the American farmer, that of fruit-growing ranks deservedly high. In bygone days the average farmer was not a fruit grower, but the economic and hygienic importance of adding fruit to the products of the farm is now generally recognized, and an orchard or fruit garden is found near almost every farmhouse.

Whether or not the farmer can make money by growing fruit, there can be no doubt that he adds to the health, pleasure and comfort of his family by so doing. It gives a variety of occupation which is welcomed by all who live on a farm. The cultivation of the different kinds of fruit creates pleasant work for the mind, while it adds pleasing variety to manual labor. Aside from the question of profit, the farmer's family should have the benefit of a succession of fruits, large and small. Fruit all the year round is possible on every farm, beginning with the strawberry in late spring or early summer and running through the successive variations of berries, grapes, peaches and other fruits, ending with the late-keeping apples, which disappear with the coming of the strawberry again.

Farmers may either propagate their own fruit trees or obtain them ready for planting from the nurseries. The various processes of propagating fruit trees, vines and shrubs are by seed, layers, budding, and grafting. Growing from seed is chiefly for the purpose of originating new varieties, or for raising stocks to be budded or grafted with approved varieties.

Apples

Among the fruits that may well be raised on the farm, the apple is easily the leader. Its numerous varieties are freely grown in almost every State of the Union. Other fruits may be regarded as luxuries, but the apple has become a necessity.

Whether the apple of Eden resembled any modern variety is uncertain, but the British Crabapple is generally regarded by fruit growers as the original of the modern edible kinds. Scientific cultivation has produced innumerable varieties, large and small, and the apple industry is now of considerable importance in several States.

As a rule the apple tree is as hardy as most of our native forest trees and any soil that will produce good crops of grain and potatoes will be found to be adapted to the growth of healthy and vigorous apple trees. The surface of an orchard should preferably be gently rolling, with good surface drainage. But if the farm is entirely level, or made up of steep hillsides, it should still have its apple orchard. Good apples have been grown in orchards of almost every conceivable location and character. When natural advantages are lacking, however, artificial means of preparing the soil must be resorted to. If the surface be entirely level and the soil wet and heavy, the ground should be subsoiled and tile drained.

After a thorough plowing of the land, the apple trees should be carefully set out at the distance apart that is recommended by the nurseryman from whom the stock is secured. The holes should be dug large, so that the roots will be in a natural position. The trees should be young and of vigorous growth when removed from the nursery rows. If possible they should be planted in the late autumn or very early in the spring. When planting is done in the spring and the ground is dry, the trees should be thoroughly watered once, after which the ground should be mulched with leaves or straw.

Crops Between Apple Trees

Cultivation of the orchard should begin at once after planting. For the first three or four years the plow and the hoe should be freely used and all weeds should be destroyed. Root crops or grass may be grown between the trees. The orchard should be carefully cultivated for several seasons, great care being taken not to injure the roots or bark of the apple trees with the plow.

Apple trees should be pruned sparingly. The heads or tops should be kept sufficiently open to admit sunshine and air. Pruning should be done in the early spring. During the summer much good may be done by cutting or pinching off the newly forming shoots which appear where not wanted. If, however, one grows his own trees from the graft or bud, no pruning is necessary.

Lists of varieties of apples recommended to growers in all the various sections of the United States are published in the reports of the American Pomological Society and can be obtained from the nurserymen. The society has catalogued over 300 varieties of apples grown in the United States and Canada.

Peaches

Peach growing engages the attention of a great many of those who have gone "back to the land" in recent years. Where it is engaged in as a business, the most approved methods of care and cultivation should carefully be studied in advance.

Varieties of peaches should be carefully selected, to have them adapted to the section where they are to be planted. This done, good trees planted on new land with good drainage, and carefully cultivated, will bring quick returns, and are among the most satisfactory fruits that can be grown either for home use or for the market.

The types of peaches are as follows: **Persian,** commonly planted in the North; **Northern Chinese,** which includes Elberta and related varieties, generally planted in the cotton-belt; well adapted to western Florida; **Spanish,** native varieties that have originated in Florida and on the Gulf Coast; adapted to the latitude of northern Florida; **Honey,** comprising the Honey and its seedlings, adapted to northern Florida, southern Georgia and westward around the Gulf; **Peen-to,** comprising the original Peen-to and the varieties originated from it; well adapted to Florida, tropical and subtropical regions. Jewel is the most important commercial variety in the group. **Oriental Bloods,** Red Ceylon, adapted to the same range as Peen-to, and Japan Dwarf Blood to the same territory as the Honey peach.

Oranges and Other Citrus Fruits

There are so many varieties, assigned to districts of wide area, that the best plan for the novice grower is to follow the advice of a reliable nurseryman in choosing varieties to plant.

The peach requires a dry, sandy and very rich soil. Slow-growing trees are the hardiest.

Pears

In recent years the pear crop has been bringing splendid returns. There has been a steady upward trend in prices until, even with a short crop occasionally, it pays to grow pears. At prices ranging from six to twelve dollars a barrel it does not take a heavy yield to pay good returns on land planted to this fruit.

The most serious drawback in growing pears is pear blight. But the oriental pears, such as Kieffer, Le Conte, and Garber, are not nearly so subject to it as the European pears. With careful attention to pruning, fertilizing and cultivation, these pears are quite free from blight. This group of oriental pears is the very best for planting, especially in the South. No cultivation should be given more than to cut down the grass and weeds around the trees. The fertilizer used should contain but little nitrogen or ammonia and should be rich in potash. This practice of no cultivation and using potash fertilizer produces hard, firm wood-growth, and such growth is not nearly so subject to injury. It is the sappy, vigorous shoots that blight. Dead or blighted branches should be cut out, cutting well below the line between dead and living wood. These prunings should be burned. Attention to these details will go a long way toward making a success of pear-growing.

Plums

Plums have been cultivated from the most ancient times. The best soil is a thick loam. The trees should be planted 20 feet apart and require but little care. They should be thinned out each spring by pruning.

In the extreme South, particularly in central and south Florida, southern Texas, and, in fact, all along the Gulf Coast, the pure-bred Japanese varieties have not been good bearers, consequently, were not generally profitable. But cross-bred varieties—Japanese varieties crossed with native varieties—have proven heavy annual bearers. These cross-bred varieties have made commercial plum growing not only possible, but worthy the attention of fruit-growers even in south Florida and northern Mexico.

Cherries

Cherry trees will thrive in almost any soil. In northern latitudes high fertilizing is not advisable, as rapid-growing trees are in danger of injury from the severe winters. The trees should be planted about 25 feet apart. Very little pruning is necessary. The central leader may be cut back at the time of planting to prevent a high heading of the tree, as a low top is greatly to be preferred.

Oranges

In planting oranges, lemons, and other citrus fruits, three things are of primary importance—soil, climate, and trees.

Good judgment must be exercised in the selection of a location, that the trees may be set in ideal surroundings, for no amount of expense and labor will overcome unsuitable conditions. Prepare the soil well; this is easier done before than after planting.

Location and Good Soil

Having selected a good soil and a suitable location, it is essential that good trees be procured. These should be well grown with clean, smooth trunks, not stunted nor bark-bound, but vigorous, thrifty trees. They should be free from insects and diseases, carefully dug and carefully packed, so as to reach the planter in good condition. Given the right sort of care, and planted properly in well prepared soil, this is the kind of tree which will give the best results.

Sour Orange Stock Preferred

For general planting in the citrus districts, Sour Orange stock will be found most satisfactory. It is adapted to a wide range of territory and conditions, but prefers rather heavy soil and a good supply of moisture. Its habit of developing a deep root-system, its thrifty, vigorous growth, its hardiness, its immunity from foot-rot, and its general adaptability to different varieties of citrus fruits, are all strong points in its favor and well worthy of note.

Rough Lemon stock produces a very strong growth of bud placed upon it. It is recommended for plantings on dry soils and in those localities where either lack of moisture or trying soil conditions render the use of Sour stock inadvisable. It is particularly adapted to deep, sandy soils. Most shy-bearing varieties are much more prolific on Rough Lemon stock. It cannot be recommended for the colder sections.

Stock for the Satsuma Orange

Citrus trifoliata is the hardiest species of citrus known in this country. It is deciduous, grows well in the open ground as far north as Washington, D. C., and withstands temperatures of 15 degrees below zero and lower.

It has become of great importance as a stock for citrus trees of all kinds. Varieties budded on it are made hardier because of its dormant and hardy character, and the fruit is of exceedingly fine quality, ripening two or three weeks earlier than if budded on other stocks. For the Satsuma orange, it is the only stock to use.

Grapefruit, or Pomelo

Many of the older citrus-fruit growers in Florida can remember when pomelo fruit was not worth picking; in fact, it had no market value. Within twenty-five or thirty years the status of the grapefruit has changed materially, and, at this time, it is not too much to say that, from a commercial standpoint, it is equal or superior to the orange. It was in Florida that the pomelo as a market fruit was discovered, and the Florida product is still considered the standard of quality.

No other citrus tree will outyield the grapefruit in bulk of fruit produced. It is usually considered to be a more vigorous grower than the orange and lemon, and can take care of larger amounts of plant-food to advantage. From the grower's point of view it is a cheaper fruit to pick and pack than the orange. Fewer fruits need be picked and wrapped to fill a box, and the saving in this connection is considerable.

Outlook for Grape Fruit

The outlook for grapefruit in our markets is excellent. It is the breakfast fruit of America *par excellence*, and its use on the breakfast-table is steadily increasing. No other fruit takes its place, because of its appetizing and refreshing qualities, and once converted to its use, a consumer wants no other fruit. Even should the price per box fall to the level of oranges, it would still be the more profitable fruit to grow, for reasons already pointed out.

In its soil requirements the pomelo, or grapefruit, does not differ from other citrus trees. The trees are grown on the same roots as the orange, and it is the root that governs. It may be pointed out, however, that on account of its large, dense, dark green foliage, the pomelo has the advantage on poorer types of soil, as it is able to prepare a larger amount of food.

The soil should be well drained, and, if it is not naturally drained, this should be provided for by ditching. The surface soil should be good, tillable earth, and if the subsoil contains some clay it will be an advantage in saving plant-food. If a hard layer is present beneath the surface soil, it should be broken up. It is best to clear the land and cultivate it for one season in cowpeas or velvet beans before planting. Such a crop, when plowed under, will do much toward starting the trees into vigorous growth.

How Plant Grape Fruit

Thoroughly plow and harrow the soil to put it in the best possible condition. Stake the ground, setting a lath or other small stake where each tree is to stand. Pomelos on sour orange and rough lemon stock should be set 25 feet by 25 feet, or 25 feet by 30 feet. If on **Citrus trifoliata** stock they may be set 18 feet by 18 feet, or 20 feet by 20 feet.

Have on hand enough commercial fertilizer to allow a pound or a pound and a half to each tree. This fertilizer should analyze four per cent ammouia and five or six per cent each phosphoric acid and potash.

Open the boxes of trees as soon as received, heel-in the trees in a shady place, covering the roots with soil and the tops with the packing material, straw, or a cover of any kind. Dig the holes just in advance of planting. Fill in around the roots with surface soil with which the fertilizer mentioned above has been thoroughly mixed.

In planting, spread out the roots carefully, and pack the soil about them by hand. When the hole is three-quarters filled, add a bucket or two of water, then fill up the rest of the hole. Pack the earth tight about the roots. If the soil is dry it is an advantage to bank up around the trunk to a height of ten or twelve inches with clean, dry soil. This should be removed as soon as the trees start to grow.

Pomelo and other citrus trees may be set out at almost any time, but the best seasons are November to March, and May and June, depending upon soil and weather conditions.

It is the common practice to cultivate the pomelo grove, and with few exceptions it is best to do so. The plan usually followed is to begin cultivation about the time growth starts in spring, and continue to cultivate at intervals of ten days or two weeks until the middle of June or the first of July. If the spring should be dry, cultivation should be thoroughly followed up. After cultivation has been discontinued for the season, the native grasses and weeds may be allowed to spring up and form a cover, or beggarweed may be sown.

The grove on heavy soils may be plowed once each year, in November, but on lighter soils all the necessary cultivation may be given with harrows.

Lemons

The lemon is the most valuable of the acid citrus fruits, and it is probably used in more different ways than any of its relatives. The very high prices secured for lemons raise the question, why should not more lemons be grown for home and local consumption in the southeastern citrus belt.

While not so hardy as the orange and pomelo, yet lemons can be grown over a wide range of territory. Even in north Florida growers have often been able to produce more fruit than they could use. Certainly no collection of citrus fruits for home use in the citrus belt is complete without a few lemons, and in sections most immune from cold this fruit may be grown in quantity.

Trifoliata

Citrus trifoliata is adapted for planting on alluvial lands, clay lands, soils underlaid with clay and those which naturally contain plenty of moisture or to which water can be applied by irrigation. It should not be planted on high, dry, sandy lands lacking in moisture. On such soils it is a failure.

Seedlings can be used as a hedge, and it forms an impenetrable barrier to man or beast, and, with proper care, can be made rabbit-proof.

Persimmons

Since its introduction into this country in 1875, the Japanese persimmon has been slowly but steadily gaining in favor. Native persimmon seedlings are used as stocks on which to grow the Japanese sorts, hence these latter can be grown on as wide a range of soil as the native persimmon—that is, throughout the cotton-growing belt. The persimmon, or kakis, has been developed by the Japanese until it is the best fruit of Japan and the persimmon takes the place with them of our apple.

They respond generously to good care and cultivation. The fruit keeps and ships well and wherever known in the markets it meets with ready sale.

Soil for Persimmons

The soil on which the Persimmon orchard is set should be well prepared. Old field land may be used, but, if in poor condition, it should be built up before setting the trees. This can best be done by growing a crop of cowpeas or velvet beans on the land and plowing them under previous to planting.

While persimmon trees can be set out at any time between November 15 and March 1, in the lower South, preference in planting should be given to the period from December 1 to February 1.

When and How Set Persimmon Trees

They should be given a distance of 18 to 20 feet apart each way, 134 or 108 trees per acre. Great care should be exercised in setting them, and the roots should not be allowed to become dried out. The tops should be cut back to 2 or 2½ feet on the smaller sizes.

Cultivation during the early portion of the season should be frequent and thorough. This may be discontinued about July 1 or 15, and a cover crop of natural weeds or cowpeas or beggarweed should be allowed to cover the ground. To avoid danger from fire during winter, this should be turned into the soil after it has become dead and dry in autumn. Commercial fertilizers can be used to advantage, and these, with the food supplied by the cover crops, will keep the trees in a thrifty growing condition.

Quince

The quince is so easily grown, so delicious for preserves, and, ripening at a time later than most fruits, affords the busy housewife more leisure to preserve it for a winter luxury, one or more quince bushes, or trees, deserve a place in every garden. It thrives best on a moist soil, and if this is not attainable naturally, a heavy mulching of leaves and rotten wood will answer the purpose.

Of the several varieties of quinces, the apple, or orange quince is universally liked. The angus is a longer keeper than the orange. The Portugal is a strong tree but unproductive, it makes a good stock on which to graft other varieties. Rea's seedling is larger than the orange and equally good.

If raised in large quantities, the trees should be set twelve feet apart, the ground should be cultivated the first three years after planting, then seeded to clover. Salt should be sprinkled thinly about the trees each spring and stable manure applied each winter.

Guavas

The guava is a sub-tropical fruit and quite hardy. Its range of culture is almost the same as the hardy varieties of the orange. The Cattley guava is the hardiest species. The bushes are very handsome, with rather thick, bright green, shiny leaves. The fruit measures ¾ to 1 inch in diameter or larger. It has a pleasant sub-acid flavor and is very highly esteemed for making jellies and preserves. It is one of the most ornamental of all fruit trees and the plants make handsome lawn specimens.

Kumquats

The kumquat is the smallest of the citrus fruits in general cultivation in this country. Usually the plants are called bushes, for they do not make trees. The plant grows to a height of 10 to 12 feet, with a spread of branches about equal to its height. The bright, dark green leaves and deep golden yellow fruits make a very pleasing combination of color. The flowers are small, sweet scented, and appear in June on the shoots produced earlier in the same season. The fruit ripens during the fall and winter, beginning with the month of November. In point of hardiness the kumquat ranks with the Satsuma orange. It will withstand temperatures of 15 degrees Fahrenheit and even lower. The bushes are given considerable pruning each season.

Limes

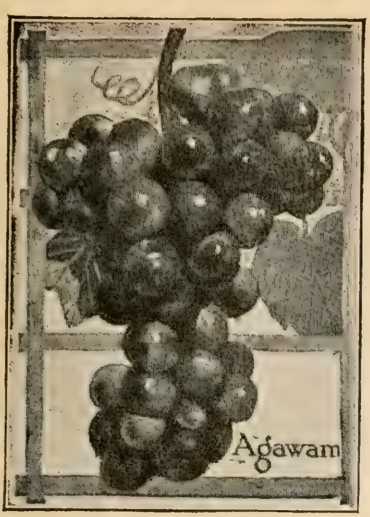
Limes can be put to all the uses for which the lemon is adapted. The flavor is different from that of the lemon, but is highly appreciated by eyery one who has used the fruit. In tropical countries they are in more general use than lemons.

Lime trees are vigorous growers, and in suitable climates bloom and bear continuously throughout the year. It must be remembered that limes are very tender trees, but they grow well under very adverse conditions.

Pomegranates

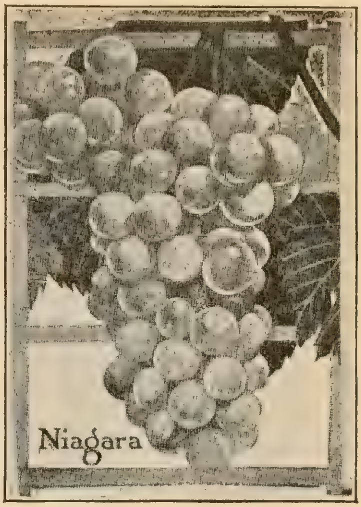
The pomegranates are very hardy shrubs which can be grown throughout the Gulf States and the coastal sections of Georgia and the Carolinas. The brilliant scarlet flowers are produced in profusion, and the plants are very prolific. The fruit is used in making jellies, marmalades, and acid drinks. For this latter purpose they are highly esteemed. The fruit has a fresh crispness, delicacy and sprightliness of flavor found in few fruits. The juice-cells surrounding the seeds, the edible part of the fruit, are of a dark ruby or wine color.

Exhibit of Different Varieties of Grapes



GRAPES

How Plant, Cultivate and Grow Them in the United States



In planting grapes be particular to use strong, well-rooted, one or two-year vines. Plant in rows 8 to 9 feet apart, 7 to 8 feet apart in the rows. The soil should be well prepared and enriched. Good drainage is absolutely necessary, for the vines will not thrive in wet soil. For fertilizer, well-rotted stable manure may be used or a heavy application of raw bone meal.

If the soil is naturally poor, give a liberal application of thoroughly rotted stable manure, or raw bone meal, about 600 pounds to the acre, with about 300 pounds muriate of potash, or two tons of good, unleached hardwood ashes. Some planters put manure or fertilizer in the hole when planting, which is recommended, and helps the vines to make, a strong, vigorous growth.

Deep and thorough preparation of the soil should be made before the vines are planted. The vines may be trained on a trellis, a grape-arbor or even over a fence, but, of course, the trellis will give the best results so far as the crop is concerned. Pruning is usually practiced in the North in late fall.

Planting Grape Vines

Before planting, the tops should be cut back to within two or three buds of the previous year's growth, and the roots to six to eight inches in length, being kept constantly moist. Spread the roots horizontally in the bottom of the hole, in as nearly a natural position as possible. Cover with good, fine, surface soil two or three inches deep, then step into the hole and firm the earth thoroughly. Now put on your fertilizer, and then fill the hole full, treading it the second time, and finish with sufficient earth to cover the vine, so that only one or two buds will be above the surface. The last filling should not be trodden, but be left loose, to act as mulch. This firming or treading the soil is very essential to success, and should never be neglected.

Cultivation

During the first summer after planting, cultivate the soil thoroughly and hoe frequently about the vines, allowing no weeds to grow. Stirring the ground frequently, especially in dry weather, acts as a stimulant to growth, the finely pulverized soil forming the best kind of mulch.

The red Delaware grape is the standard by which the quality of American grapes is gauged. The berries are small, juicy, sweet and with thin but firm skin. Together with these good qualities it is able to withstand climatic conditions under which other hardy varieties fail and to adapt itself to many soils not suited to most other grapes. It is rightly considered the table grape of unsurpassed excellence. As a wine grape it is among the best; its early maturity insuring a crop; attractiveness in appearance, keeping quality on the vine and in the package, shipping excellence and comparative immunity to black rot make it also a very desirable market berry.

In the southern states, grapes belonging to two separate groups may be grown. These are the Muscadine grapes and the northern bunch grapes. The wine and raisin grapes of Europe are worthless except in dry climates.

Grapes of the Muscadine group are native to the South, and are well adapted to the soil and climate. When compared with the bunch grapes, the fruit-clusters are small, but the fruit is fine flavored and valuable as a table grape, for making unfermented grape-juice, preserves, jellies, and wine. In Virginia and North Carolina they are extensively grown for wine-making.

Muscadine vines are long-lived, reaching a healthy, vigorous old age. They require plenty of space for the best results, and should be planted 15 to 25 feet apart each way. The usual plan is to allow them to run on an overhead trellis, 6½ to 7 feet from the ground. The posts should be heart-pine, cypress, or cedar. The trellis may be made of wood and wire, or of wood alone.

The usual plan, heretofore, has been to allow the Muscadine grapes to grow without pruning, but this is a mistake It has been shown that, to secure the best results, the vines should be pruned. This is best done in October, immediately after the leaves have fallen. They may also be pruned in summer. Pruning should consist largely in thinning out the vines to admit air and sunlight. Judicious pruning will assist materially in producing more fruit of larger size and better quality.

In the lower South, the northern bunch grapes, while not so thoroughly at home, can be grown to perfection for home use and for local market, when well cultivated, sprayed, and cared for. The leading varieties are Delaware, Diamond, Ives, Moore's Early, and Niagara.

The vines should be planted 8 to 10 feet apart. For the first season or two a post placed at each vine will be sufficient. Later cross-pieces and wires can be added, and the vines allowed to run out over them.

For best results, the bunch grapes must be carefully pruned each winter season. Cut away a goodly portion of last season's growth, leaving four or five buds on each shoot. The best spray for the canes and fruit is Bordeaux mixture. This should be applied several times each season, beginning soon after the growth starts in spring. It is also good practice to give an application in winter, just after the pruning is done.

Commercial fertilizer can be used to advantage on all grapes. Stable manure and wood-ashes are also good.

Niagara White Grape

The leading white grape of America is the Niagara white. The bunches are large, handsome, shouldered and compact. The berries are large, round, with thin but tough skin. In all, it presents a very fine appearance. The vine is vigorous and comparatively free from disease, though it responds very well to spraying.

Some of the Well Known Garden Fruits

Conditions for Producing Sure Good Crop.

Some Principles of Garden Planning

1. Rows should run north and south and, if possible, across rather than up and down a slope.
2. Perennial plants should be kept together at one end or side of the garden.
3. The rows should be as long and as continuous as possible, to effect ease and simplicity of cultivation.
4. Plant the tallest crops at the north end of the garden.
5. So arrange the crops as to keep all the ground busy all season.
6. Do not let two crops of similar nature follow one another on the same ground.
7. Keep the plants requiring the same distances between rows together, gradually increasing this distance as you cross the garden.
8. Arrange to raise quick growing crops between the rows of more slowly maturing ones.
9. In the small garden sow a little seed often rather than a large amount at one time.
10. Try to get one planting in just about when the previous sowing is appearing above the ground.

Blackberries

The best soil for blackberries is a strong clay loam that will retain moisture, though the plants will grow and thrive almost anywhere if planted in fertile soil. The plants should be set in rows 5 to 6 feet apart and 3 feet in the rows. The cultivation should be shallow, and three good canes only should be permitted to grow in each hill.

After fruiting cut out the old canes and allow the new growth to come on. Pinch the tips when about 3 feet in height, to make them grow bushy and better able to stand. Sometimes it is necessary to offer support to the canes, and for garden culture a line of chicken wire netting offers a serviceable support. In field culture it is not usual to support the canes in any way.

Gooseberries

The gooseberry is a northern plant, and seldom fruits well south of Maryland except in the high mountain sections. It grows best in a cool climate and moist soil. The plants may be set in rows from 5 to 6 feet apart and 4 feet apart in the rows and cultivated both ways for the first year or two. Little pruning is required and that is mainly to remove the stunted shoots and keep up a supply of vigorous new shoots from the base. Spraying with Bordeaux mixture will keep down mildew, but mildew may be prevented in a great measure by keeping the head of the plant open and not allowing it to get crowded with shoots that are not needed.

Little cultivation is required other than heavy mulching. This will keep down the weeds and keep the ground in a moist condition.

Currants

There are white, red, and black varieties of currants grown in the fruit garden, the most widely distributed being the red.

The red currants are more particular in regard to soil requirements than most other small fruits. They will grow in sandy soil, but they are not so productive as when set in cool, moist loam. They should be set in rows about 5 to 6 feet apart, and about 4 feet apart in the rows. A half-dozen thrifty shoots will make more and larger fruits than a crowded cluster.

The first season allow three good shoots to grow, and the next spring shorten these slightly if they have made a good growth, thus permitting the new shoots that have started to come up for the second season.

For the first five or six years after setting, a few inches of the new wood, or current year's growth, should be cut off each fall. If this is not done, the result will be a tall, barren stem with but few fruit-buds. No plant will better repay generous treatment and high cultivation than the currant. Two or three forkfuls of good stable manure around each bush every fall is desirable.

If this cannot be readily obtained, an experienced grower recommends the following special fertilizer: Pure ground bone, 600 lbs.; muriate of potash, 250 lbs.; nitrate of soda, 150 lbs. Apply the above, thoroughly mixed, to each acre every spring, sowing it broadcast and cultivating it in.

Crabapples, Olives, Quince and Sunflowers

Crab Apples

The Siberian crab is most used here for jellies; the trees of all species are ornamental aside from their fruit-bearing qualities. The blossoms in the spring are incomparable. The generally accepted theory is that all apples originally sprang from the wild crab apple, and this is indigenous to most parts of temperate United States, so the crab apple is capable of almost universal cultivation. It stands neglect but responds richly to care.

Loganberries

The loganberry is a novelty of recent growth. The vine is an exceedingly strong grower, trailing on the ground like the dewberry. The fruit is rather long, often an inch or more in length, dark red, with the shape of the blackberry and color of a red raspberry, and the flavor a combination of both. It is claimed to be a cross of the blackberry and the raspberry.

Mulberries

The Mulberry can be successfully grown wherever the cherry succeeds. The fruit is well liked by epicures. Three favorite varieties are the Downing, Persian Black, and Persian White. If silk worms are raised the mulberry is an essential to their well-being, since the silk worm is fed on the young leaves of the mulberry tree.

Nectarines

A dry, sandy, very rich soil is preferred by the nectarine, which is of the almond family and comes originally from Persia. It can be grown wherever the peach thrives, its cultivation is the same, and it differs from the peach mainly in having a thin, smooth skin where the peach skin is velvety.

Olives

According to the Italian proverb, "If you would leave a lasting inheritance to your children, plant an olive tree." The tree has been highly esteemed in all ages and both sacred and classical history are filled with references to the olive.

It is a native of Syria and flourishes best in a warm, comparatively dry climate. It will not thrive in a region where the temperature falls below 20 degrees Fahrenheit. It seems especially suited to sandy or loam soils rich in lime and potash. The olive has done so well in California in recent years that Florida and the Gulf states are introducing its culture more and more. The American oils are said to rival those of Aix, France, or Florence, Italy. The olive has been grown in California since the days of the Mission Fathers, having been brought from Spain by the Spanish owners of the land.

The olive tree is a low-branching evergreen, growing from twenty to thirty feet in height. The leaves bear a strong resemblance to those of the willow but are more delicate and of a dusky deep-green or bluish tinge above, silvery beneath. The flowers, as delicate as the leaves, are at first a pale yellow color but, opening, disclose four white petals with yellow centers. The wood is hard, compact, and brittle and is susceptible of a high polish.

The fruit is a berried drupe about the size of a native plum, and "olive-green" in color. The green fruit is used for pickling and from the ripe fruit is extracted the olive-oil of commerce, sometimes called "sweet oil."

Olive oil is coming more and more into use as a table oil, and in America, as elsewhere in the sections where the tree is grown, the oil is rapidly gaining popularity in cooking, taking the place of butter.

A young olive tree will bear fruit when two years old, but rarely pays the expense of cultivation till six years old; it grows slowly and is long-lived.

The tree is easily propagated either by seed, slip, or grafting. When seeds are planted the pits should be removed from the olives and the shell softened by soaking about 24 hours in a lye solution, containing about one-half pound of caustic soda to a gallon of water. If the shells are not thus softened they should be cracked before planting as they are liable to stay in the ground two years before germinating.

Blueberries

The blueberry, called in Ireland billberry, so delicious when found wild, has been aptly characterized by J. H. Hale, in the Rural New Yorker: "The blueberry proved to be a good deal like Indians—it would not stand civilization, and was never satisfactory, although I monkeyed with it for a period of about ten years." If fortunate enough to have a blueberry patch it is well to let it have its own sweet will, merely keeping it within bounds. A new garden variety is being developed, but as yet it is in an experimental stage.

Figs

No fruit is more valuable in the southern fruit-garden than the fig. They can be closely planted—10 to 12 feet apart—and yield heavily. The fig-canning industry is gradually extending throughout the South, and since several tons of fruit can be produced on an acre of ground, it is well adapted to intensive culture. The preserved product put up at the present time in no wise supplies the demand, and a very material increase in the fig-canning industry is expected.

The fresh fig is also finding its way into the markets, and meeting with a ready sale. Carefully picked at the right stage of maturity and packed in strawberry crates, they can be placed by express in distant markets, four or five hundred miles, or even more, in good condition.

Figs come into bearing very early and for that reason commend themselves to the fruit-grower. With a proper selection of varieties, fruit may be secured from June to November. No other fruit covers so long a summer-fruiting season.

Soja Bean, or Soy Bean

German Coffee Berry, the seed sometimes being parched and ground for use as coffee. Plants grow eighteen inches in height, and are immensely productive, having small round seed. The plant, being a legume, is valuable as a soil enricher, while the plant and seed make a highly nutritious forage. Sow broadcast at rate of one and one-half bushels per acre.

Sunflowers

The sunflower is largely cultivated for its seeds, which make excellent food for cattle, sheep, and poultry. Where largely grown the leaves are used for stock and the stalks for fire-kindling.

Sunflowers grow best on a light, well-drained, well-tilled, and fertile soil. When grown between the rows of potatoes they are planted only every third or fourth row, to avoid shading the potatoes too much, and are thinned to a distance of twenty to twenty-four inches apart.

The seeds may be planted two to four inches deep, in hills three feet apart, in rows three to three and one-half feet apart. If planted in rows, by drilling, the young plants should be thinned, when about ten inches high, to twelve to sixteen inches apart. An acre requires ten to fifteen pounds of seed when planted by the drill method. The seeds may be planted quite early, as they are not injured by slight freezing. The cost of raising a crop of sunflowers is about the same as for corn. The mammoth Russian variety is considered by experts the best variety for oil; single-headed varieties are favored for seed production.

Planted in swampy places the sunflower absorbs miasma and renders the region healthier. In the earlier days of the country there was a saying that where sunflowers grew there was no ague.

When the French explorer, Champlain, arrived in America in 1606 he found the Indians growing sunflowers for the oil. About 1650 the plant was introduced into Europe, where it is widely grown for its seed and oil.

The oil is used for illumination, for wool dressing, in paints, and especially in soap making; but it has not served for lubricating. The cold-pressed oil has found favor for culinary purposes.

The residue or cake remaining after the extraction of the oil is a valuable feeding stuff and can be used for fertilizer. Sunflower seed fed to milch cows has produced good results when fed in the proportion of 4 lbs. ground sunflower seed, 6 lbs. barley, 15 lbs. clover hay, and 30 lbs. silage.

PINEAPPLES

Adapted to Much of the New Territory Belonging to the United States

The time at which the main crop in the United States ripens has something to do with the popularity of the pineapple, as it comes into the market after the strawberry has become somewhat common and before the main shipping season for peaches. The main shipping season is from the middle of April to the middle of July.

A considerable area in the United States is adapted to the cultivation of this fruit, and with the increased demand for it there can be no doubt that this will be greatly extended. The State of Florida doubtless contains the largest tract of pineapple land in one body. Southern California has some land that will produce pineapples profitably.

In Hawaii and Porto Rico

All of Porto Rico and the Hawaiian Islands are free from frost, but the soil and climate are not uniformly adapted to the production of this crop. In the Philippines there is more land adapted to the production of pineapples than will be utilized for several generations. Porto Rico is thought to be especially well adapted for the locating of canneries.

The pineapple plant will remain alive for months without being in contact with the soil. In contact with moist, loamy soil it soon sickens and dies. It takes about four months from the time of blossoming to the ripening of the fruit. The main season of blooming is during January and February, though occasionally plants bloom through the entire year.

Gift of America to the World

The discovery of the pineapple, as a fruit, was coincident with the exploration of South America by the Spaniards. As early as the seventeenth century it was cultivated in Holland and in England, but its use was confined to royalty. Outdoor cultivation of pineapples in the United States dates back to 1860, though attemps to grow it in Florida were made earlier.

Soil

The pineapple thrives on a soil from which it would seem impossible for another plant to secure food. This is because of the fact that it is one of the plants that, like the orchids, grow on substances but do not derive nourishment from them.

The proper selection of soil for pineapples is the most important problem in connection with their culture. The requirements of the plant in this respect are so different from the ordinary fruits that it is hard for the would-be pineapple grower to realize that he has here a plant that demands a soil utterly intolerable to the ordinary crops of vegetables. This crop can be grown upon land that will produce ordinary vegetables, but the soil must be of a loose and open nature and not allowed to become water-soaked. It is not the fertility nor the humus in the soil that is detrimental to the pineapple, but it is the want of free drainage. The soil prepared by the gardeners who grow this crop under glass illustrates this point. Their standard formula is about as follows: Two parts decomposed fibrous loam, one part well-decayed manure, another part one-half inch bones and pounded oyster shells. From this it is seen that even where the control over temperature and moisture is the most perfect the texture of the favorite soil is open and decidedly loose. The directions for watering are fully as interesting. "Moderately in winter and freely in summer."

Philippines. In Niihu and the Philippine Islands, where pineapples succeed well, the soil is disintegrated lava covered with a layer of humus. There is but little cohesion in such soils, particularly when, as in this case, they contain considerable lime. When clay is present it is said to be important that it should not be so abundant as to hinder root penetration or to hold the soil water.

In some of the best pineapple plantations of Florida the mechanical analysis of the soil is as follows, the depth of the soil ranging from nothing to six inches: Substance—Moisture in air dried samples, 0.15; organic matter, 1.21; gravel, .23; coarse sand, 3.02; medium sand, 61.11; fine sand, 33.76; very fine sand, .54; silt, .22; fine silt, .06; clay, .50—nearly 97 per cent of sand and gravel.

How it is that pineapple plants can grow and produce a crop on a soil that seems to be so deficient in the chemical constituents that are necessary for plant growth has not been explained satisfactorily.

Climate

A sub-tropical climate whose temperature never reaches the freezing point is not all that is necessary for pineapple growing. It will rot in an atmosphere continually saturated with moisture. Pineapple plants may be shipped from the Hawaiian Islands to Florida if they be kept dry. This fact merely indicates that the healthy pineapple plant does not suffer seriously from ordinary dry weather. It is one of the class of plants that prefers an alternating dry and wet season.

Laying Off the Land

After the field has been thoroughly cleared it is laid off into "lands." In extensive fields the lands are about sixty feet wide. This leaves a distance of about thirty feet for the man who, in gathering the crop, breaks the fruit to toss it to the man in the pathway—one side of a land being picked over at a time. The lands should be laid off in various "checks," 18x22 inches for the smaller varieties up to 48x48 inches for the largest varieties.

The method of planting in beds about fifteen feet wide under sheds has been practiced for a considerable time and is gaining in favor. This allows the laborer to use the shuffle hoe without going between the plants, and also to apply the fertilizer by merely stepping among the plants of the first two rows. It is always necessary to exercise the greatest care in order to avoid breaking the leaves.

Planting

Suckers are planted for the main crop of the common varieties. Slips and crowns take too long to mature a crop to be utilized excepting when suckers are not to be obtained. Well-matured suckers will produce a crop in fourteen to eighteen months from time of setting out. The sucker should be set three to five inches deep, according to size, care being taken not to set it so deep that sand can be easily blown into the bud. Sanded plants are difficult to handle successfully, and it is easier to avoid trouble in this line than to remedy it after it has occurred.

To prevent sanding (sand getting into the bud) fill the bud with a mixture of cotton-seed meal and tobacco dust. This will form a solid cake and as the new leaves grow out the plug is lifted and no harm done to the plants. As the dews and rains dissolve the plant food it is carried into the soil and the tobacco dust furnishes insecticide as well as plant food.

Seed is used only for experimental purposes, like originating new varieties. It takes these ten or twelve years to mature a crop.

Best Time to Plant

Time of Planting. Plants may be set out at any time during the year but the best time is during the fall. If set out at this time they will make considerable growth before winter sets in.

If there should be suckers fit to set out during the spring the pineapple grower should not permit any avoidable disturbance at that time, because it is the time of fruiting, when the plants need every advantage possible to produce the finest fruit. Practically the time for setting out pineapple suckers is limited to the season from July to November.

Cultivation

In the sandy region of south Florida very little attention is directed toward the matter of cultivating after the field has been set out. This is by no means due to indifference or carelessness, but rather to the result of years of experience.

Cultivation as it is now practiced consists in agitating the surface of the soil to the depth of about an inch with a shuffle hoe three or four times a year. Some planters hoe the pines as often as once

Pineapples in Warm Regions of the United States

a month. The roots of the plants do not penetrate the soil deeply. The soil is made up of so large a per cent of sand that it cannot bake or form a hard crust.

In Porto Rico, Hawaii, and the Philippine Islands a different class of soil is utilized for producing pineapples, and more attention must be given to the cultivation of this crop. In all of these sections pineapple growing is still undeveloped, and consequently the cultivation varied and often indifferent.

Avoid Breaking the Leaves. During the growing season the leaves of the pineapple plant are very easily broken. The peculiar and complicated structure of the pineapple leaf makes it very resistant to drought, but if the outer skin is broken it soon loses moisture to an excessive extent, and damage to the plant results. Whatever implements are used or whatever operations are performed in the field, special care must be exercised to avoid breaking leaves.

Pineapple Sheds

For thirty years growers have practiced the use of a sort of a protection built on posts in the form of an elevated platform and covered with palm (palmetto) leaves to protect pineapples against cold. It was discovered that the pineapples grown in partial shade were more tender and juicy than those grown in the open. The desire to protect this plant from the winter's cold seems to have been the origin of our present pineapple sheds, though the protecting of pineapples by sheds has now extended to the region where there is little danger of freezing. The value of the half-shade condition in improving the quality of the fruit is now so generally recognized that this is the important consideration by many for building sheds. The cover should not be less than six and one-half feet from the ground, and it is preferable to have about seven feet in the clear. If plastering laths are used the cover may be six inches lower than when boards are used.

Trees for Shade. Growers have discovered the beneficial effect from the presence of cabbage palmettoes, which not only seem to protect the pineapple plants from the cold of winter, but to be an advantage to the crop in the summer. Its native haunts appear to be in the shade of dry forests in some of the tropical countries of America.

Pineapple Fibre

The plant after maturing a fruit gives rise to one or more suckers and later in the season dies, to remain in the field where it is beneficial, as it forms a slight covering as a mulch, but during the dry season it may become a source of danger from accidental fires.

Growers are learning that these leaves may be put to a more profitable use. The fibre yields readily to machine manipulation and comes out white and clean without washing by simply drying in the sun after being extracted. There are said to be about sixty pounds of fibre in a ton of green leaves—about double the amount in a ton of green ramie stalks. The fibre has many qualities that give it superior merit, and is used in the textile industry. Many of the soldiers serving in the Philippines and travelers in the Orient have brought home beautiful embroideries worked on pineapple cloth.

Gathering

It is not an unusual experience for the agriculturist to do all that is necessary to bring a crop to excellent maturity and lose it all or in part for the want of proper handling at the time of gathering. It is necessary to pay the closest attention to details in gathering. This is the operation in which judgment plays the most important part. It cannot be learned except by experience.

The Fruit Should Be Dry When Gathered. After that, care in handling, care, and more care is the watchword. The pineapple, though enduring the most trying conditions of temperature and rough handling as long as the skin remains unbroken, deteriorates rapidly after the slightest break.

Ordinarily there are but two grades, fruits and culls, but besides the culls the grower has often three grades on his hands: Ripes, greens, and mediums.

In sizing, the fruit is known by the number it requires to fill a half barrel crate, viz: 18's, 24's, 30's, 36's, 42's, 48's, and 54's. The last-named size is not crated unless the crop is very short.

Starting Without Capital

To produce good fruit, such as is demanded by the fancy markets, the cost per acre cannot be reduced below $100. If the soil be fertile enough to grow a crop without fertilizer the cost of clearing will be greatly decreased. From the figures here given it will be seen that it requires considerable capital to grow pineapples extensively.

The Outlay per Acre

Cost of land	$ 1.50	to	$ 80.00
Cost of clearing	20.00		60.00
Cost of plants	25.00		800.00
For fertilizer	20.00		150.00
Freight, express, etc.	20.00		80.00
Labor	25.00		75.00
Shed	325.00		600.00
Total	$436.50		$1,845.00

This estimate does not include the salary of the superintendent.

The figures seem almost prohibitive to many farmers, but it has been demonstrated repeatedly that a willing laborer may become a pineapple grower. The absolute outlay in money may be reduced to the cost of the plants, the cost of the fertilizer, and the cost of the land. This puts the cost for the first year at about $50, and to carry this forward to the ripening of the first crop about $20 more should be added, making an outlay of $70 to produce the first crop on an acre. In the pineapple-growing section of Florida there is sufficient demand for labor to more than keep a man while he is growing his first crop. Another plan adopted is for two persons to form a partnership, one working to supply the needed cash while the other grows the crop of pineapples. After the first crop has been produced the increase in the number of plants will permit the extension of the area as rapidly as financial conditions will allow.

BANANAS

The banana is produced only in sub-tropical America, the Canal Zone, the Philippines, etc. It is an herbaceous plant with an underground stem, the apparent stem, which sometimes attains a height of thirty feet, is only the sheath of the leaves, closely compacted. The leaves themselves are six to ten feet long and one or more broad.

The fruit is 4 to 10 or 12 inches long anr 1 inch or more in diameter. It grows in large bunches weighing often from 40 to 80 pounds. The pulp is soft and of a lucious taste. When ripe, it is eaten raw or fries in slices. The banana is grown only in a warm, tropical or sub-tropical climate and is an important article of food.

It requires a rich soil with a large amount of moisture. Is propagated by cuttings, known as suckers. It gives an enormous yield per acre.

PAPAWS

The name is applied to two different kinds of fruit, one purely tropical, the other North American and especially belonging to the middle states. While it grows in warm climates, as a tree, 20 and 30 feet high, in the northern states it is a shrub. The fruit, ripening usually in September, is 3 or 4 inches long and about a third as thick, with tender yellow skin when quite ripe. The fruit is considered too sweet by many, while some prefer it to the banana.

In warm climates, adapted to its growth, the fruit grows as a berry about 10 inches long and half as broad and is of a dull orange color. It is sometimes eaten raw with pepper and sugar, but is more generally cooked with sugar and lemon juice. The unripe fruit is boiled and eaten as a vegetable and is also pickled. The juice of the ripe fruit is said to be used as a cosmetic to remove freckles and that of the green fruit is a remarkably efficient vermifuge. The leaves are used in the French West Indies as a substitute for soap in washing linen. Cultivated as a shrub in rich soil.

Variety of Farm and Garden Production

Broomcorn

The soil should be plowed in the fall or as early in the spring as possible, so that it will retain moisture. The land should be disked and harrowed about two weeks before planting, and after planting requires repeated cultivation to keep down weeds. The plants are tender and grow most rapidly in warm weather, not standing the early spring cold as corn will. Great care must be exercised in the selection of seed; one bushel of seed will plant about twenty acres. Broomcorn is a good sod crop. Two good varieties are the Dwarf and the Standard; the former grows only about six inches high with a brush from twelve to twenty inches; the Standard must be bent in order to make the heads easier to cut. Broomcorn demands prompt attention when it is ready to harvest, as it will not stand in the field without great damage. It must be cured in sheds in order to retain its green color. The price per ton ranges from $50 for the lower grades that have been damaged by weather, to over $200 for the superfine grades.

Cranberries

Swampy ground on the farm can be made very profitable by the cultivation of cranberries. The berry is a native of the colder regions of the Northern Hemisphere and grows as far south as Virginia. It is cultivated in twenty of the States. The yield is a million bushels a year, half of this coming from Massachusetts. Low, moist ground forms the cranberry bog. It should be planted in hills 18 inches apart and 6 inches apart in the rows. A thick coating of swamp muck may be applied with benefit before planting. The cranberry marsh should be kept free from weeds, grass, and moss, as clean, well-drained, and sanded bog renders the crop less liable to injury by frost. In case of berries rotting, the bog is generally found to contain less clay and silt (and iron), and more nitrogen than necessary. Potash and phosphoric acid applied to the soil, with some lime, will generally correct this. The berries should be picked late in September or early October and should not be picked in a wet condition nor stored in a moist place.

The cranberry has a very high keeping quality if reasonably cared for.

Apricots

A fruit of the plum genus which was introduced into Europe from Asia more than three centuries before Christ, and into England in the first half of the 16th century. It is a native of Armenia and other parts of Asia and also of Africa. The apricot is a low tree of rather crooked growth, with somewhat heart shaped leaves and sessile flowers. The fruit is sweet, more or less juicy, of a yellowish color about the size of the peach and resembling it in delicacy of flavor. The wood is coarsly grained and soft. Apricot trees are chiefly raised against walls and are propagated by budding and grafting. Its care and cultivation is the same as the peach, the crown gall, produced by a small parasitic organism, being the same disease which afflicts the peach, is liable to attack the apricot. As with the peach, there is no cure. The only remedy is to dig up and destroy the trees.

Dewberries

The dewberry is a species of low blackberry plant. The fruit ripens both before and after the blackberry varieties and is much grown for market.

Do not plant dewberries on too rich garden soil, as they go too much to vine, with a corresponding loss of fruit. For fertilizer use a small percentage of ammonia and a large percentage of potash. The plants may be set in rows 5 to 6 feet apart and about 3 feet in the row.

Some growers let their dewberries trail on the ground and keep the vines cut back to 2 or 3 feet in length; but much better results are obtained if the vines are given some support, either by trellis or by stakes driven between every alternate hill, tying one hill from each side to the top of the stake, which should be notched at the top to prevent slipping down. Cut off all surplus vines 18 inches beyond where tied.

Emmer

Emmer is a sub-species of wheat, cultivated in regions of little rainfall, under the name of spelt. It is valuable as a hardy forage plant.

Raspberries

Raspberries are divided into three general classes: The reds, blacks, and purples. The red raspberries thrive best in a strong soil which is inclined to hold the moisture. They have been grown successfully on sandy soil when highly cultivated and liberally manured with stable manure so that the moisture may be retained. It is customary to set the plants in rows 6 feet apart and about 3 feet in the row; but, in highly fertilized soil, it may be necessary to give a little more space between the rows.

The best fertilizer is well-rotted stable manure, but if this cannot be obtained, a high-grade commercial fertilizer may be freely used. Bone meal seems to be especially suited to the needs of the plants.

Clean cultivation through the whole season is especially important, and the cultivator should be set rather high so as to prevent the formation of too many suckers. In cold climates it may be necessary to protect the canes in winter, and the simplest plan is to bend them down along the row and cover with soil. This can be done late in the fall.

Black raspberries should be planted in rows 5 to 6 feet apart, and 3½ to 4 feet apart in the rows. They are more hardy than the red raspberries and seldom need winter protection. The ends of the long canes should be pinched back to promote the production of side shoots and an increased crop of fruit.

The cultural directions for the other class will apply equally well to purple raspberries; but the canes need not be pinched back in the spring. They are very vigorous and, if permitted to grow, will often produce a good crop when both the red and black varieties fail.

Gherkin

The burr, or gherkin, is a distinct species of cucumber which comes from the West Indies. It is used exclusively for pickling. It is very small, two to three inches in length. The vines should be planted five feet apart, and cultivated as other cucumbers.

Hemp

The region for hemp growing in the United States is comparatively limited. It is raised here for its fibre used in making ropes and also as strong warp for carpets. Any soil adapted to corn can be used for growing hemp. It is sown broadcast and is ready to harvest in a trifle over three months. It is cut by hand in the same manner corn is cut. If retted or rotted by the dews or rains where it lies on the ground, the fibre is gray and harsh. If retted in water the fibre is soft, lustrous, and creamy white. It is a most exhaustive crop, unless the waste products are returned to the soil. Four to six pecks of seed to the acre is the amount usually sown if a crop of fibre is desired. If grown for hempseed it should be planted like corn, using half the amount of seed.

Horseradish

No more profitable market-garden crop can be found, as a second crop, than horseradish. It is a hardy plant, makes its main growth in the fall, and usually need not be dug until December. To secure roots for planting, all small roots are broken off of the main root when it is prepared for market in the winter. The rootlets, or sets, should be cut in pieces about five inches in length and a quarter to half inch in diameter. If the top end is cut square and the root end slanting it will guide one in planting to insure the right end being placed uppermost in the ground, developing a more symmetrical root. The sets may be tied in bundles and stored in a cool cellar or pitted in the open ground. Early in May the horseradish sets may be planted between the rows of early cabbage or beets, placing the top of the set two or three inches under the surface of the soil, so that it may not come up until after the cabbage has been harvested.

TABLES OF WEIGHTS, MEASURES, WOODS. HEAT, COLD, WAGES, Etc.

Value of Indian Meal.

As a food, **100** pounds of Indian meal is equal to the following:

Name of Article.	Amount in Pounds.
White Turnips	1,200
Beets	900
Cabbage	700
Carrots	700
Rye Straw	666
Ruta Bagas	625
Wheat Straw	500
Oat Straw	400
Corn Stalks	333
Timothy Hay	200
Barley	111
Rye	90
Oats	83
Wheat	76
Beans	60
Oil Cake	40

Decay of Stumps.

Kind of Stump.	Time of Decay in Years.
Pine	200
Cedar	9 to 18
Hemlock	9 to 15
Spruce	7 to 14
Hickory	6 to 10
Maple	5 to 18
Oak	5 to 8
Ash	5 to 8

Weight of Lumber.

Different kinds of seasoned lumber contain the following number of pounds in 1,000 feet.

Kind of Lumber.	Pounds.
Pitch Pine	4,150
Maple	4,000
Beech	4,000
Hickory	3,960
Locust	3,800
Dogwood	3,960
Cherry	3,720
Walnut	3,690
Oak	3,675
Ash	3,550
Cypress	3,350
Elm	3,220
Chestnut	3,170
Red Pine	3,075
Poplar	3,056
Birch	2,950
Cedar	2,925
Yellow Pine	2,890
White Pine	2,880
Willow	2,780
Norway Spruce	2,670
Hemlock	2,350
Butternut	1,960

Per Cent. of Sweet.

Name of Article.	Per cent of Sweet
Sugar Cane	18
Sugar Beet	10
Sorghum	9½
Corn in Tassel	3¼
Maple Sap	2½

Lumber Required

To build a mile of board fence, ordinary width of board:

1 board high....2,640 feet
2 boards " ....5,280 "
3 " " ....7,920 "
4 " " .. 10,560 "
5 " " .. 13,200 "

Pounds Per Acre.

The following is about the number of pounds of each which may be grown on an acre:

Name.	Pounds Per Acre.
Mangel Wurzel	22,100
Parsnips	11,100
Cabbage	10,800
Turnips	8,500
Apples	8,500
Potatoes	7,600
Carrots	6,900
Pears	5,100
Hay	4,000
Onions	2,700
Cherries	2,000
Plums	2,100
Beans	2,200
Peas	1,900
Oats	1,800
Barley	1,650
Wheat	1,200
Hops	400

Age Attained by Birds.

Name of Bird	Age Attained in Years.
Heron	80
Pelican	50
Sparrow Hawk	40
Skylark	30
Crane	24
Linnet	23
Nightingale	18
Lark	18
Blackcap	15
Goldfinch	15
Partridge	15
Pheasant	15
Robin	12
Blackbird	12
Thrush	10
Wren	3

Constituents of Milk.

Of **1,000** parts of milk there are various constituent substances as follows.

Constituents.	*Number.*
Water	840
Milk-Sugar	45
Butter	40
Caseine	40
Phosphate of Lime	17
Chloride Potassium	9
Phosphate Magnesia	4
Free Soda	3
Common Salt	3

A Quartette of the Newer Fruits

Alligator Pear

The alligator pear, also known as aguacate, avocado, midshipman's butter, etc., is the fruit of a tree native to tropical America, but now widely grown throughout tropical countries. There is an increasing production of this fruit in southern Florida, both on the mainland and the Keys; also in the milder regions of southern California. The West Indian type, which is the only one found in the markets of eastern United States, yields a fruit about the size of the largest pears. The varieties differ considerably in form, and range from deep purple to light green in color. Generally speaking, they are not unlike a medium-sized egg-plant fruit in form and appearance. The portion eaten is a pulp which surrounds a single large seed. In texture the pulp is soft and somewhat like butter, and is perhaps most commonly used for salad making. The Mexican type of alligator pear, which is now grown in California and Florida, is a smaller tree and yields a much smaller fruit. It is, however, reported to endure several degrees of frost, whereas the West Indian type is injured by a temperature of 32 degrees Fahrenheit. The average weight of the avocadoes is about three-fourths pound each. The edible portion or pulp constitutes on an average 71 per cent, the seed 20 per cent, and the skin 9 per cent of the entire fruit.

Peen-to Peaches

The Peen-to peach belongs to a group of peaches that is essentially adapted to sub-tropical conditions. The group is limited in its adaptations in this country to the States of Florida, Louisiana, Mississippi, Alabama, and the coast regions of Texas. It seems especially suited to Florida conditions, and is therefore of unusual value to that State, since the varieties of peaches which flourish in orchards farther north are nearly always failures when grown in Florida.

Roselle

The roselle is the fruit of Hibiscus sabdariffa, a widely distributed tropical plant, which yields the roselle fiber of commerce. As grown in Florida and California it is an herbaceous annual. The plants are grown from seed in spring, and require a long season free from frost to mature. Under favorable conditions they produce a very heavy, continuous crop of blossoms in the latter part of the summer and autumn. The fruits, which somewhat resemble okra or gumbo in form, though they are much shorter in proportion to their size, are a dark, magenta red in color and are used for making jellies and preserves, which are of a beautiful red color and have a flavor suggesting that of the cranberry. The roselle may be grown in conditions where the ordinary hibiscus flourishes.

Surinam Cherry

The Surinam cherry, sometimes called pitanga, is the fruit of a tropical shrub, native to Brazil and other tropical regions of South America. This shrub, which attains a height of about 20 feet, is grown to a limited extent in southern Florida and southern California. The fruit is about the size of an ordinary cherry, is roundish oblate in form, ribbed, bright red in color, and of a sharp but pleasant acid flavor. It is somewhat used for domestic jelly making.

Angora Goats

The raising of Angora goats has become one of the distinctive industries of Texas, where it is found most profitable. In Iowa and other States this goat is introduced on land to be cleared, as it will clean up all underbrush and shrubbery in two years.

Average Period of Incubation

Chickens	20-22 days
Geese	28-34 days
Ducks	28 days
Turkeys	27-29 days
Guinea fowls	28 days
Pheasants	25 days
Ostriches	40-42 days

Plant One Acre

Currants and Gooseberries

6 by 3 feet apart	2,420
6 by 4 feet apart	1,815

Raspberries and Blackberries

6 by 3 feet apart	2,420
7 by 3 feet apart	2,075

Strawberries

3 by 1½ feet apart	9,658
3½ by 1½ feet apart	8,260

The Most Profitable Berry Plant

STRAWBERRIES

How to Plant
Cultivate
And Grow Them

Of all the small fruits the strawberry is probably of the greatest commercial importance in this country.

During early Colonial days the wild strawberries of the field were abundant in North America and furnished a much-prized article of diet. Later on the plants were transplanted to the garden and under cultivation gave fruits of increased size.

The garden strawberries now so common in this country have come chiefly from the so-called Pine type of berries, imported plants of this type having been crossed with native American berries. The Pine type sprang from **Fragaria chiliensis,** a plant originally introduced into Europe from Chile, but now known to be native to the western mountain regions of both North and South America. The first native strawberries to be brought under cultivation, however, were those of eastern North America, which belong to the scarlet class, the species being known to botanists as **Fragaria virginiana.**

The garden strawberry is an American product which adapts itself to a wider range of latitude than any other cultivated fruit. It is universally liked as well as commercially important. As it will grow on almost any soil and is easily cultivated, no farm should be without its strawberry patch.

Many growers find the strawberry a very attractive subject for the propagation of new varieties. It is a plant which is readily propagated by seeds, which is, of course, the only means of securing new forms. And, fortunately for the breeder, the strawberry is provided with a means of self-preservation through the agency of stolons, or runners, which enables the grower to propagate any plant he may develop.

The commercial propagation of the strawberry naturally proceeds along two lines: (1) The production of standard and novel sorts in large numbers to be sold to local or distant purchasers; and (2) the production of a few standard kinds for the fruit crop.

In the first instance fruit production is only a side issue. The main crop is the plants. The aim is to get these as large and strong as possible, and to this end the ground is made rich and put in good tilth by frequent cultivation early in the season.

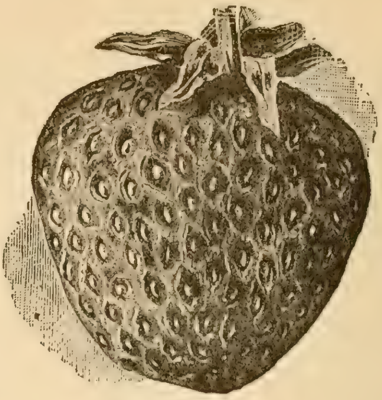
The home production of runners for one's own planting is another matter; here the fruit crop is the chief object and the production of runners prior to harvesting the fruit is discouraged. The difficulty with this method is to secure strong, well-developed plants for August and September planting. When the main planting is done in the spring the earliness of the plants is of less importance. In favorable seasons, however, strong plants for August and September planting can be secured even in the New England states.

When to Set the Plants

Field practices in the cultivation of strawberries vary in different sections of the country to conform to climatic and soil conditions. The factor most influenced by conditions of soil and climate is the time of setting. In some sections the rainfall will permit of either spring or autumn planting, while in other equally good strawberry-producing regions, plants can only be successfully set during the fall. The demands of the market also influence the date of field planting.

The land to be devoted to the growing of strawberries should, if possible, be planted in a cultivated crop, such as potatoes, beans, or corn, at least one year previous to setting the plants, in order that the larvæ of such insects as wireworms, white grubs, cutworms, etc., may be as completely eliminated as possible. Sod land is a favorite breeding ground for such insects, and should therefore be avoided unless it be new clover sod, which can be turned under with good results.

In general there are only two seasons for planting—spring and fall—but in some localities spring planting should be done in April or May by the use of the preceding season's plants, while in others it may be done in June from the crop of runners of the same season.



Sample Strawberry

In irrigated regions planting can be done at whatever season the work will give best results in future crop production. In humid regions rainfall is a determining factor.

Suggestions for Planting

There is no plant that adapts itself so well as the strawberry to all conditions and to all sorts of soil, whether loam, sand or clay. Good drainage is absolutely essential, but the plants should have a reasonable amount of moisture.

Avoid setting the plants in land that has been for a long time in grass, for in such places you will find the larvæ of the May beetle, which are extremely destructive to small plants. The soil cannot be made too fertile, and the richer it is made, and the more humus you can get into it, the better will be the crop. Stable manure is probably the best fertilizer that can be used, although there is an objection on account of the grass seeds which may be brought in. If commercial fertilizer is used it can be made at home, and the following formula is probably the best: Acid phosphate (16 per cent), 900 lbs.; nitrate of soda, 100 lbs.; fish-scrap, 600 lbs; sulphate of potash, 400 lbs. This will make a ton. This fertilizer should be applied broadcast and worked well into the soil before plants are set, or applied as a top-dressing and worked into the soil after the plants have started to grow. Don't put directly under the plants when setting, as thousands upon thousands of strawberry plants have been killed in this way.

Depth to Set the Plants

No plant which the gardener has to handle is more exacting in regard to depth of planting than the strawberry. As the plant is practically stemless, the base of the leaves and the roots being so close together, care is required to avoid setting the plant so deep that the terminal bud will be covered or so shallow that the upper portion of the roots will be exposed, either being a disadvantage which frequently results in the death of the plant.

System of Planting

There are two general systems of planting strawberries. In the first the plants are set in hills and can be cultivated in both directions; the other allows more freedom and the plants spread and form a broad belt or row called a "matted row."

In the hill system of culture the strawberry plants are set singly either 3 by 3 feet apart, or with the rows 4 feet apart and the plants 2 feet apart in the row, depending upon the character of the soil and the length of time the plantation is to be maintained.

In Florida a common practice is to lay the land off in broad beds 8 to 12 feet wide, the rows of plants to run lengthwise of the beds, the rows 24 inches apart, with the plants 18 inches apart in the rows. Such beds afford sufficient drainage and hold the mulch better than narrow beds or raised rows, and the space between the plants admits light to all sides of the plant, which is an

Protect Strawberries in Winter

advantage in coloring the fruits. The hill system raises the plant somewhat and admits of more intensive cultivation than does the matted row.

Planting in Matted Rows

In order to maintain a belt of plants 12 to 18 inches wide (a convenient width), and still have space between the belts for cultivation and the other operations necessary to the successful management of a plantation, the rows at planting time should be much farther apart than is necessary with the hill system.

A common practice is to set the plants in single rows 4 feet apart, with the plants 12 inches apart in the row. The runners which develop from these plants are then allowed to take possession of the area for 6 to 9 inches on either side of the original plants, thus making a matted row 12 to 18 inches wide; this leaves 30 inches between the rows, which allows ample space for cultivation and gathering the fruit. This space can be reduced from 30 inches to as little as 18 inches where land is valuable and it is necessary to secure maximum returns; on thin soil, however, the greater distance is most satisfactory.

There is one advantage in the narrow cultivated space. After the second crop has been harvested the runners can be allowed to take possession of the cultivated middle, and when the young plants become thoroughly established the original rows can be broken up with a narrow turning plow or sharp cultivator. In this way a patch can be very satisfactorily and cheaply renewed and by the liberal use of suitable fertilizers the rotation can be kept up on the same soil for several year.

Some planters prefer to set the plants for the matted row in a double row at planting time. The practice is to establish two rows 12 inches apart, 6 inches on each side of the center of the matted belt, setting the plants 2 feet apart in each row and alternating the plants in the row, so that the plants actually stand a little over a foot apart.

Cultivation

Clean and shallow culture are the watchwords of successful cultivators. Growers have come to realize that cultivation means more than the destruction of weeds. Cultivation has a beneficial influence upon the soil by loosening it and making it more easily penetrated by moisture in the form of rain or dew. A better stand of plants can be maintained during a dry period on well-tilled ground than upon ground that is poorly cultivated.

Mulching

Covering the surface of the soil with dead or decaying vegetable matter is the meaning of the term mulching as here used.

Mulching in strawberry culture serves different purposes, depending upon the locality in which the plants are grown. A mulch acts as a protection from cold, prevents freezing and thawing and the consequent lifting of the plants ("heaving out"); it retards growth in cold regions by shading the crowns and maintaining a low soil temperature longer than in soil not mulched; it acts as a conserver of moisture, discourages weed growth by smothering the young seedling, and finally protects the fruit from contact with the soil.

The materials which can be used in mulching are various, but their value depends largely upon their freedom from weed seeds and their fitness to protect the plants without smothering them. Whole or cut straw free from grains, strawy manure from the horse stable, and pine straw from the forest are among the more common mulching materials. In certain sections marsh hay, either from fresh or salt water marshes, is a common and very satisfactory mulching material.

Protect in Winter

It is advisable in the middle states and in the North in general to protect the plants in winter. A mulch in the late fall should be applied, just enough to cover the crowns of the plants. With the earliest start of the leaves in the spring, the mulch should be pulled back from the plants and left on the beds to keep the fruit clean. After the mulch is off, and before the fruiting season, keep a sharp lookout for weeds that will start in the rows. After the plants have fruited, the space between the rows should be cultivated to prevent evaporation of moisture, keep the plants growing, and kill weed growth. And this loose mulch should be maintained through the remainder of the season.

The varieties of strawberries best adapted to any particular locality can be readily ascertained by inquiry of the nurserymen who supply strawberry plants. The question of the adaptability of varieties for the various fruit sections of the United States has been carefully worked out by the experts of the American Pomological Society and their recommendations can be easily secured by anyone desiring to grow strawberries on a commercial basis.

The government is making extensive experiments at Sitka as to the strawberries which flourish best in Alaska.

VARIOUS FERTILIZERS

Pure Animal Manures—Pulverized

Convenient, compact, high grade natural manures dried and ground or pulverized, very nutritious, immediate and lasting in effect. Excellent for mixing with the soil for plants. In the vegetable garden they promote a rapid, steady growth until maturity. They make a rich Liquid Manure.

Quantity Required. For garden and field crops, 1 to 2 tons per acre—½ before plowing; the balance before harrowing. For top-dressing grass, use 1 ton per acre, applied in fall or early spring.

Sheep Manure Pulverized. Price, 50 lb. bag, $1.25; 100 lb. bag, $2.00; per ton of 2,000 lbs., $30.00; in packages of 2 lbs., 15c. (P. P. 2½ lb.); 5 lbs., 30c. (P. P. 5¾ lb.); 10 lbs., 50c. (P. P. 11 lb.).

Horse Manure Dried and Ground. Price, per 100 lb. bag., $2.50; 500 lbs., $10.00; per ton of 2,000 lbs., $36.00.

Ashes—Canada Hard Wood

Drives away insects and improves the texture of the soil; indispensable for all crops requiring potash; very beneficial for garden and field crops, grass lands and lawns. **(Guaranteed Analysis.)**—Total Potash, to 5%; total Phosphoric Acid, 1 to 3%. Apply 1 to 2 tons per acre, as one heavy application is better than the same quantity put on in fractions.

Price per bbl. of about 200 lbs., $2.75; per ton of 2,000 lbs., in bbls., $25.00. Special prices in bulk.

Nitrate of Soda

Valuable solely for the nitrogen it contains. It is chiefly a stimulant, used in addition to other fertilizers. It is quick in action and hastens crops to maturity, being extremely soluble, it is easily applied after the plants are above ground. Price per 5 lb. package, 35c. (P. P. 5¾ lb.); 10 lb. package, 60c. (P. P. 11 lb.); 25 lb. bag, $1.25; 50 lb. bag, $2.25; 100 lb. bag, $4.00; 200 lb. bag, $7.00; per ton, $65.00. Quantity required. 100 to 500 lbs. per acre. Liquid, 5 lbs. to 80 gals. of water.

Lime and Land Plaster

Land Plaster or Gypsum. Valuable for soils requiring lime and sulphate; also good on grasslands and sour soils. Price, 100 lb. bag, $1.00; $16.00 per ton. Quantity required. One to two tons per acre.

Lime Air Slaked. Price, 100 lb. bag, $1.00; per ton of 2,000 lbs., $16.00.

Fertilizing Constituents

Basic Slag. Price, 200 lb. bag, $2.75; per ton of 2,000 lbs., $21.00.

Kainit or German Potash Salt. 12½% actual potash and 33% common salt. Used chiefly for its potash value. Price, $1.60 per 100 lbs.; 200 lbs., $2.35; ton of 2,000 lbs., $19.00.

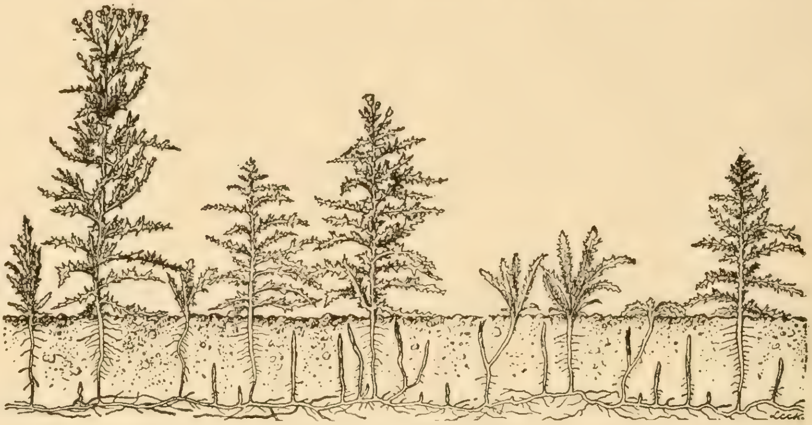
Acid Phosphate or Dissolved S. C. Rock., 14% available phosphoric acid. 100 lbs., $1.50; 200 lbs., $2.75; per ton, $20.00.

HOW KILL
THISTLES

CANADA THISTLES

TELLS HOW
IT IS DONE

Herewith Is Given the Method for Extermination



The Greatest Weed Pest

Diagram showing the characteristic growth of the Canada thistle. The shoots are illustrated in various stages of development, from the most advanced down to buds just starting from the roots.

Methods of Distribution and Means of Preventing It

The Canada thistle spreads into new localities, from farm to farm, and even from field to field on the same farm, largely by its seeds. These seeds are smooth, brown, about one-eighth of an inch long, and nearly cylindrical, being a little pointed at one end. Each seed has a tuft of hairs called a pappus. The time of seeding extends from July to October. The principal ways in which the seeds are scattered are as follows:

Wind and Water

After the seeds mature they are easily detached from the heads by the wind and are scattered over the surrounding country. They are also carried by run-off water down hillsides and by streams. Water transportation becomes a special danger in irrigated districts.

Small Grains and Straw

Mature thistle seeds are often harvested with small grains, but are usually separated from them in thrashing. It is often advisable, however, to reclean such small grain as is to be used for seed, especially in the case of oats. The thistle seeds are carried over into the straw stacks and from them through the manure to the fields; but if such manure is left in piles for several months practically all the seeds will be decomposed. Harvesting machines often carry the seeds to other fields and thrashing outfits carry them from farm to farm.

Hay

If hay is cut sufficiently early, when the thistles are just starting to bloom, there will be no danger of their maturing seed. If farmers let their hay stand too long, they not only diminish its value but permit the thistle to form seed.

Grass and Clover Seed

Although of infrequent occurrence, the seeds of Canada thistles are sometimes found in grass and clover seed, especially in alsike clover and Canada bluegrass. It is not difficult to detect their presence by the use of a hand lens after a little practice. If in doubt a farmer may send a sample to his State experiment station or to the United States Department of Agriculture, Washington, D. C., for analysis. Farmers' Bulletin 428, entitled "Testing Farm Seeds in the Home and in the Rural School," is of great assistance to farmers in detecting the presence of weed seeds in commercial seed.

Methods of Killing Canada Thistles

After this weed has obtained a foothold the best way to eradicate it is to prevent it from sending up top or above-ground growth, which finally causes the roots to die. This is the basic principle which must be kept in mind at all times. The top of the plant serves much the same purpose as the lungs of animals, so that if the plant is continually deprived of that vital part it must soon die.

There are a number of ways of keeping down the top growth. The best method for each case will depend on the farmer's rotation and convenience. Any practicable method will do. The man is of far more importance than the method. Many farmers make a start to kill the thistle, but abandon their efforts too soon. It is probably no exaggeration to say that 95 per cent of the efforts to kill thistles are failures.

An Experience in Killing Thistles

Mr. Oscar Montgomery purchased a farm in Fulton County, Ohio, at a comparatively low price because it had become badly infested with thistles; every field contained patches of the weed.

It was the general opinion in the community that the thistle had come to stay—that it was a dispensation of Providence that could not be altered. The new owner, however, knew the situation and prepared to meet it.

He wrote to the Department of Agriculture for information on the control of the thistle and was supplied with a statement giving the experience of various farmers in killing this weed. With this, supplemented by his own experience, he outlined a plan of attack. As the efforts of most farmers to kill this weed are unsystematic and lack persistence and the insufficient treatment usually given it, far from reducing its vigor, actually stimulate it to increased growth, he directed all his effort toward the prevention of top or above-ground growth, since only a little top growth is usually sufficient to prolong the life of the thistle until the next year.

The various fields were to be devoted to corn, oats, wheat, hay, and pasture. The first field, of which about 3 acres were thickly set to thistles, was planted in corn in check rows, so as to permit thorough cultivation.

He replaced the cultivator shovels with 9-inch sweeps, thus having an instrument which acted as a series of knives run just under the surface. This is effective, if the edges are kept sharp, in cutting

Canada Thistles May Be Eradicated

off the stems of weeds. Mr. Montgomery found this implement largely responsible for the work of killing out the thistles in his cultivated crops. Some soils are too stony or otherwise unsuitable for this implement. In such cases reliance will have to be put on the ordinary cultivators, and such thistle tops as slip through between the teeth should be cut down with a hoe.

Mr. Montgomery could use this tool only until the corn was laid by, however, and since at that time many thistles were still growing, he modified his plan of attack, but never lessened its vigor. Having the locations of the thistle patches well in mind, he went over them with a hoe, cutting all the tops below the surface of the ground. At the start it was necessary to visit the patches rather frequently (about once a week), but as the season advanced the intervals became less frequent. Assisted by his two children he would attend to it at some odd hour when other work was not pressing. It required about an hour's work each time. He considered it as one of the numerous chores about the place.

Thistle Killed in One Year

After the corn crop was taken off this field was plowed. In the spring it was again planted in corn for the purpose of locating and killing any stray plants that might have persisted, but somewhat to his surprise not a thistle top appeared in the field. The weed had been killed in one season with a little extra work.

A second field was left in pasture during 1911. On the advice of the Department of Agriculture about two acres of this field that were most thickly infested, together with a small infested area in an adjoining meadow, were plowed in June just before the thistle blossomed. After that this plowed area was gone over frequently with a disk and no tops were permitted to appear. About two diskings a week were required at the start, but gradually they became less frequent, until toward the close of the season one in two weeks was sufficient. In 1912 this area was allowed to come up to a volunteer growth and not a thistle top appeared—a second example of eliminating the weed entirely in one year. Since this area was originally so full of thistles as to be practically worthless, the owner did not consider that the fallowing cost him the use of the land. This fallowing is best done in the latter part of the season, beginning about the time thistles start to blossom. It may be done on pasture land or may immediately follow hay or grain harvest. It is usually best to follow this treatment with a cultivated crop the next year to kill any of the weeds that may persist.

To Prevent the Thistle Seeding

A third field was planted to oats. Before they started to blossom the owner cut the most thickly infested patches, oats and all; where the thistles were less numerous he cut down the tops with a sharp hoe. The result was a crop entirely free from thistles. Early in the spring this field was seeded to grass and clover. The same procedure was followed in this case as with the oats, and a clean crop of hay resulted. Mr. Montgomery did not expect that this treatment would kill the thistle. His object was to produce clean crops, prevent the thistle from seeding, and weaken its vitality as much as possible. He intended this treatment to hold it in check until the field should be planted to a cultivated crop.

Though a great deal of labor was required the first year, the result was so successful that the work the second year did not amount to more than two days' work for one man.

The principal point in the extermination of Canada thistles is one that it seems hard for many farmers to grasp—that is, that it must be kept in mind and attended to on time and faithfully. Once begun, it must be continued till the thistle tops cease to appear.

Several other methods are recommended by the United States Department of Agriculture. In using any of them the farmer should never lose sight of the all-important point of keeping down the top growth at all times, in order to exhaust the root.

Growing Smother Crops

Among the crops adapted to the purpose of smothering Canada thistles are alfalfa, clover, the grasses, millet, sorghum, hemp, buckwheat, and small grains. Their effect is not only to restrict the top growth of the thistles by shading them, but also to crowd the roots. The land should be occupied by such crops at all times, so that the thistle has no chance to make a recovery. This method seems to be the best adapted to the deeper and more productive soils, where such crops grow well and where the thistle is apt to persist for a longer period than on the shallower and less productive soils. Alfalfa is probably best for this purpose. Good grass and clover stands have also been known to rid fields of thistles.

This method is not as sure in its results as clean cultivation, and seems to be of most value in giving the weed a setback more or less severe, which renders easier the work of clean cultivation that should follow.

Salting Thistles in Pastures

The method of salting thistles in pastures is adapted to small patches accessible to live stock, especially sheep. In their effort to get the salt the stock nibble the thistles and trample them to death. It seems best to let them grow until they start to bloom and then cut off the tops close to the ground and apply a small handful of salt to each new shoot that springs up.

Spraying With Chemicals

Experiments for the purpose of permanently eradicating this weed by the application of plant poisons have not proved very practicable. Although the tops may be injured more or less, the plants make a renewal growth at once. Hence, it appears at present that about the only value of this method is in preventing the thistle from maturing seed in grain fields, thereby being a substitute for cutting. It may be that under certain conditions spraying would be better than cutting, as in the vast grain fields of the semi-arid West. The best materials for this purpose seem to be solutions of common salt, iron sulphate, and arsenite of soda, which is poisonous to man and live stock.

Methods on Waste Lands

The Canada thistle commonly occurs along roadsides and fences, in woodlands, and on other uncultivated lands, where it matures seeds, thus being a menace to the surrounding country. In many cases about all that can be done is to prevent seed from maturing by cutting off the tops at or below the soil surface just as blossoming starts. It will usually be necessary to make two cuttings a year to prevent seeding. Thistles in such locations can be entirely eradicated, however, by continually cutting off the tops until the roots are exhausted.

Summary

Canada thistles can be eradicated in a comparatively short time with little or no loss in the use of the land. The length of time required varies inversely with the thoroughness of the work.

In dealing with this weed the following three rules must never be lost sight of:

Easiest Way to Kill Thistles

(1) The easiest way of killing Canada thistles is to deprive them of their tops continually, thus exhausting the roots. There are various methods of keeping down the tops; there is no one best method. Each field presents a problem in itself and must be handled according to circumstances. Usually some form of clean cultivation is the best, either with a crop or by bare fallow.

Follow Systematic Plan

(2) Outline a systematic plan of attack.

(3) Keep the plan in mind at all times and follow it faithfully.

CONSIDER SPECIAL SUBJECTS

FARMERS' BULLETINS

LIBRARY OF AGRICULTURAL INFORMATION

Farmers Should Acquaint Themselves with Farm Subjects

Bulletins in this list will be sent free, on application to the Secretary of Agriculture, Washington, D. C. Because of the limited supply, applicants are urged to select only a few numbers, choosing those which are of special interest to them. Residents of foreign countries should apply to the Superintendent of Documents, Government Printing Office, Washington, D. C., who has these bulletins for sale. Price, 5 cents to Canada, Cuba, and Mexico; 6 cents to other foreign countries. The bulletins entitled "Experiment Station Work" give briefly the results of experiments performed by the State experiment stations.

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28.	Weeds: And How to Kill Them.
30.	Grape Diseases on the Pacific Coast.
34.	Meats: Composition and Cooking.
35.	Potato Culture.
36.	Cotton Seed and Its Products.
44.	Commercial Fertilizers.
48.	The Manuring of Cotton.
51.	Standard Varieties of Chickens.
52.	The Sugar Beet.
54.	Some Common Birds.
55.	The Dairy Herd.
56.	Experiment Station Work.
61.	Asparagus Culture.
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69.	Experiment Station Work.
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85.	Fish as Food.
87.	Experiment Station Work.
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121.	Beans, Peas, and Other Legumes as Food.
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154.	The Home Fruit Garden: Preparation and Care.
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287.	Poultry Management.
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481.	Concrete Construction on the Live Stock Farm.

* Bulletins being steadily increased in number. Write to Government for list of later bulletins.

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483.	The Thornless Prickly Pears.
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492.	The More Important Insect and Fungous Enemies of the Fruit and Foliage of the Apple.
493.	The English Sparrow as a Pest.
494.	Lawns and Lawn Soils.
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496.	Raising Belgian Hares and Other Rabbits.
497.	Some Common Game, Aquatic, and Rapacious Birds in Relation to Man.
498.	Methods of Exterminating the Texas-fever Tick.
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501.	Cotton Improvement under Weevil Conditions.
502.	Timothy Production on Irrigated Land in the Northwestern States.
503.	Comb Honey.
504.	Experiment Station Work.
505.	Benefits of Improved Roads.
506.	Food of Some Well-Known Birds of Forest, Farm and Garden.
507.	The Smuts of Wheat, Oats, Barley and Corn.
	Washington: Government Printing Office: July, 1914.
508.	Market Hay.
509.	Forage Crops for the Cotton Region.
511.	Farm Bookkeeping.
512.	The Boll Weevil Problem.
514.	Experiment Station Work.
515.	Vetches.
516.	The Production of Maple Syrup and Sugar.
517.	Experiment Station Work.
518.	Winter Barley.
519.	An Example of Intensive Farming in the Cotton Belt.
521.	Canning Tomatoes at Home and in Club Work.
522.	Experiment Station Work.
523.	Tobacco Curing.
524.	Tile Drainage on the Farm.
525.	Raising Guinea Pigs.
526.	Mutton and Its Value in the Diet.
528.	Hints to Poultry Raisers.
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530.	Important Poultry Diseases.
531.	Larkspur, or "Poison-Weed."
532.	Experiment Station Work.
533.	Good Seed Potatoes and How to Produce Them.
534.	Durum Wheat.
535.	Sugar and Its Value as Food.
536.	Stock Poisoning Due to Scarcity of Food.

INFORMATION FREE

Our readers will do well to send for booklets and circulars which advertisers in agricultural papers offer to send without charge. The literature they send, on application, contains a great amount of practical information which leads to an understanding of agriculture and kindred subjects.

We do not publish the entire list of Government Bulletins. They come out in large number during the year. Send to the Agricultural Department, Washington, D. C., for the later issues.

On our table are many valuable publications. Among them are "The American Poultry Journal," Bowsfield's "Making the Farm Pay," "First Principles of Agriculture," "Gardening for Pleasure," "Gardening for Profit," Henderson; "Henderson's Picturesque Gardens," "How to Choose a Farm," "Soils and Crops," Hunt & Burkett's "Agriculture," "Success with Hens," Robert Joos; "The Back Yard Farmers," J. Willard Bolte; "Three Acres and Liberty," Bolton Hall; Mrs. Berry's "Golden Rule Poultry Journal," and other publications.

WE INTEND TO GIVE CREDIT

It is highly probable, in the many subjects we treat, that we have failed to give credit for passages quoted and illustrations we have used, as we cannot always recollect whence they came. As our attention is called to any omissions of this kind we will endeavor to rectify mistakes in subsequent editions.

To appreciate the liability to error in the preparation of this work let the reader consider the difficulty of so arranging the 43,000 towns mentioned in this work that the location of any one of these can be found in ten seconds; that the copy must be found and each one of the great variety of flowers must be made true to nature and, as never before done, the description of planting, cultivating and color all placed before the reader in such brief space.

And further consider the task of getting forty-five different breeds of dogs together, the over seventy different breeds of domestic fowls and all the leading breeds of horses, cattle, sheep and swine, with descriptions of how to successfully care for them; and all the grains and fruits, alfalfa and bee-keeping. But see the index and then please carefully examine the book and see how highly probable it is that we have made some mistakes.

HOW TO PREVENT FLOODS

In 1888, Thomas E. Hill excavated a swamp to a depth of three feet, made of it a charming little three-acre lake and reclaimed several acres adjoining this body of water on a farm he owned at that time.

This lake was filled with surface water from the first spring rains and from that time to this has been a feature of value and beauty on the premises.

The supposition had been that this water might become stagnant, but, agitated by winds blowing across it, it is always clear and fresh.

An important discovery was made following the making of this lake. During the dry weather, while the evaporation of moisture caused a falling in depth of water, it was not sufficient to make the lake dry, but it was sufficient to give a heavy second crop of hay on all the surrounding land.

Since the construction of this body of water many have been the values and pleasures resulting from it. Though small in area, it was immediately appropriated for boating; it became the home for warm water fish; it made a place for winter skating, a reservoir from which water could be obtained for watering trees and plants, and it has for years supplied a town of several hundred people with ice.

This little body of water is full of suggestions, among them being an admirable place for keeping waterfowl, the increased size of crops resulting from evaporation of moisture; the holding of water falling upon the soil, preventing its escape into flood waters which devastate the lower lands; the reclaiming of low, wet, waste land and the beautifying of all properties where such lakes may be constructed.

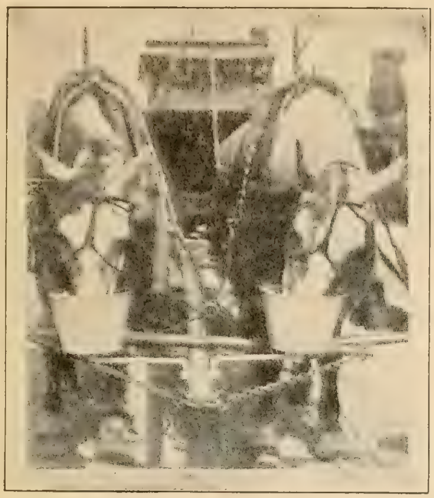
How to secure the making of these water reservoirs is the question.

As yet no practicable method has been devised for preventing floods. Various plans are proposed, including principally the dredging and enlargement of rivers, but with the putting in of thousands of miles of drain tile every year, increasing the rapid outflow with every long rain, it is seen that unless some method is adopted that will hold the water where it falls upon the uplands, floods will become more and more a danger.

The description herewith given of this little lake is merely a suggestion. Mr. Hill does not tell how the thousands of water reservoirs in the uplands may be obtained. He rests his case by saying that the thousands of miles of tiling put in by farmers in draining their land is one cause of floods, and the remedy is to hold the water where it falls upon farm land.

Whether it would not be less expensive for the government to co-operate with farmers in making reservoirs to hold rainfall, rather than to annually spend millions of dollars in repairs after floods which do nothing to prevent floods in coming years, is a subject for consideration.

KIND TREATMENT OF ANIMALS AND TREES

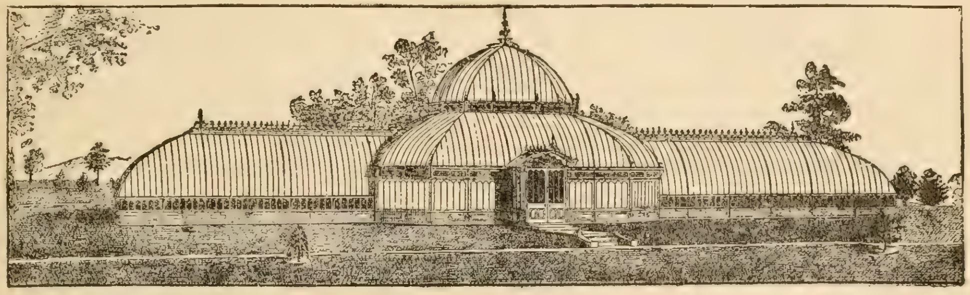


Nosebag Abolished.

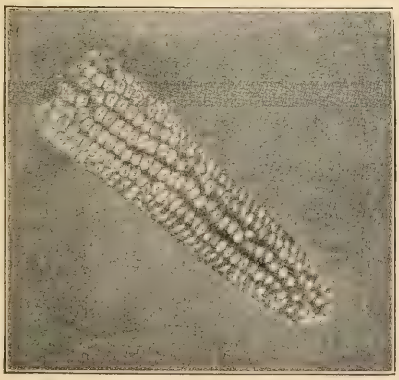
When ready to eat the noon meal the kind, thoughtful master of the horse provides opportunity whereby the animal may eat in comfort. The humane sentiment of your town should abolish the cruel nosebag.

American Elm

The streets about your premises may be bordered with American elm trees. The experienced forester of the town will trim those trees into graceful form. The necessity of his attention is seen in the lower part of the tree herewith.



CONSERVATORY WITH WINGS ATTACHED.—*From Lord & Burnham's Book of Plans.*

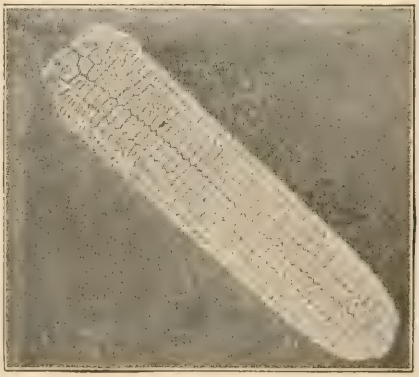


Two

Kinds

Farm

Products



Inferior.

These two ears of corn represent the two types of farmers, one who is satisfied to produce the inferior.

Superior.

The other is not content unless he exhibits the best. Determines always to excel, to do better.

IN THE
COUNTRY

CITY FAMILY

HOW THEY
SUCCEED

Lessons for Thousands of City Families

FARMERS' BULLETIN 432, U. S. DEPARTMENT OF AGRICULTURE

By J. H. Arnold, Scientific Assistant, Office of Farm Management, Bureau of Plant Industry

Introduction

This is a record of the experience for 18 years of a city family that moved onto a farm in 1892. The father had been a lawyer by profession, the manager of a well-established business firm in one of the principal cities of the Middle West, and was earning a salary of $3,000 a year. At 60 years of age, having been in business about twenty-five years, he was compelled on account of ill health to abandon his profession and business. There were 10 children in the family, ranging from 2 to 21 years of age, of whom 7 were boys.

Under these conditions, with available capital amounting to about $10,000, which had been partly saved in business and partly received by inheritance, the family decided to buy a farm and attempt to solve the problem confronting them, namely, "to make a living, educate the children, and make a pleasant home." This paper tells how they satisfactorily solved the problem, and while this is not a story of typical farm life, it shows what courage, energy, business ability, and moderate capital may accomplish on a farm. The fact that this farmer has been successful without previous experience or special training, following systematically the ordinary cropping system and methods of tillage, with the exercise of good judgment, shows that the chances for success in farming are as good as in most business enterprises.

An attempt is made to present such facts about this farm as will enable the reader to comprehend under what conditions and by what means the results were accomplished; hence, a description of the farm and the methods of operating it will be given in some detail. It is not intended to indicate in this description ideal methods of farming. As a model of farm management from the standpoint of maintaining soil fertility and thus obtaining large crop yields this bulletin will have no special interest. The methods of keeping accounts have been the instruments through which this farmer has kept track of his business, but they are not given as model forms. The description given is rather for the purpose of enabling the reader to get the point of view and spirit of the family in meeting the problems of life and realizing their ideals on a farm.

It is believed that this farmer has, by his experience, answered the chief objections to farming as an occupation and to a farm as a place for establishing an ideal home. These objections, as usually stated, are that farming is not as remunerative as other occupations for the same ability and effort expended, that the family is deprived of desirable educational and social opportunities, and that the labor is too hard and uninspiring, especially for the women. The record will also show how some important social, economic, and technical farm problems have been worked out; for instance, the farm-labor problem, the household problem, the training of children in responsibility in management, and the doing of farm work in a way to meet the requirements of a normal social life and of cultivated intellectual tastes. It is also believed that a narrative of American farm life, such as this, will demonstrate not only the possibilities but the desirability and dignity of farming as an occupation.

While the owner of the farm wishes to avoid publicity, he is willing that the results of his experience be made known in order that other city men may feel safe in attempting to support and educate their families in this manner.

A diary and a financial record were kept on this farm for a period of seventeen years. The facts here given are based upon these records.

Description of the Farm

When the family began country life in 1892 the farm consisted of 300 acres in a much run-down condition. About 80 acres were added to the farm a few years later, making the entire farm consist at present of 380 acres. It was an old farm, having been located and surveyed about the middle of the eighteenth century. The old house, which had been built about 100 years ago, was still substantial. In a remodeled form it is now the kitchen of a modern house. Much of the land had been allowed to grow up in bushes and young trees. The barns and fences were out of repair, so that the place as a whole presented a dilapidated appearance. The farm had been rented out and had produced a gross income of about $700 a year.

The location is in the beautiful and fertile region known as the Shenandoah Valley, the middle section of the great Appalachian Valley which extends from the northeast corner of Pennsylvania to central Alabama. It is about 100 miles from a seaboard city and is accessible to railways leading to New York and to the large cities of the Ohio and Mississippi valleys. In this section there are now good turnpike roads. One of these passes the farm and leads to a shipping point 3 miles distant and to the county town of 3,500 inhabitants, 3½ miles distant.

The soil here is residual, formed from a limestone of the Cambro-Silurian age, having a rich brown color and, according to the classification adopted by the Bureau of Soils of the Department of Agriculture, is a clay loam of the Hagerstown series.

Capital and Other Resources

The inventory taken January 1, 1892, showed that the land with improvements was valued at $55 an acre, the whole farm and equipment being worth $19.707. The debt on the farm, $8,459, and money borrowed for fertilizer, $220, made the total liabilities $8,679, which, deducted from the above assets, left a balance of $11,028, which constituted the "present worth" of farm and equipment at that date.

Arrangement of the Fields

The general management of the farm seems to have been well thought out from the first. The farm was laid out originally about as it appears at present, and with slight changes to fit conditions the cropping system was the same as now. It is divided into ten fields ranging from 18 to 44 acres in size, with 15 acres of woodland, and these fields are located on either side of a lane.

Special attention was given to laying out the farm. All the fields except one may be reached within 650 yards of the barnyard, and the last field is within half a mile. The fields are as long as can be arranged in accordance with the general farm plan. This is regarded as an important feature in the arrangement, since the time saved during the year in turning corners when plowing and in doing other farm operations is considerable. The gate to each field is placed at the corner nearest the barn, and workmen are required to leave implements at the gate when coming in from the fields. The lane leading to the fields is 30 feet wide; except for the wagon track it is grown up in bluegrass, so there is practically no waste on its account. A well, 80 feet deep, located in a farther field, supplies water by windmill to a cement trough, which is so placed that it furnishes water in two fields and may be reached easily through the lane from other fields.

Cropping System

The general crop history of each field has following system of rotation: Corn, wheat, wheat, grass for hay, pasture, corn. Usually two wheat crops follow in succession, and now and then if the stand of grass is not good it is plowed up, put into corn, and reseeded the next year to wheat. The crops raised on each field during 1910 being as follows: 1, pasture; 2, corn; 3, hay; 4, wheat; 5, wheat; 6, pasture; 7, wheat; and 8, pasture. This gives the following acreage of crops: Wheat, 95 acres; corn, 40 acres; hay, 49 acres, including alfalfa; pasture, 78 acres, besides the permanent pasture.

There are thus 262 acres which have been farmed in the five or six year rotation for nearly seventeen years. During this time the division of crops, which have been run in rotation, has been on the average as follows: Corn, 47 acres; wheat, 80 acres; and hay and pasture, about 135 acres. It is to be added, however, that a field of 30 acres, which is now in orchard, was put in some field crop up to the time the trees were six or seven years old. The bearing orchard, 15 acres, is now 14 years old, and the remainder, 15 acres, is in 1 and 2 year old trees. The young orchard is in corn, making the total acreage of corn 55 acres.

On one field alfalfa was sown in the fall. The alfalfa was not able to crowd out weeds, especially the sorrel, which for a time threatened to take the crop. During the next spring and summer the field was disked twice and harrowed two or three times with a spring-tooth harrow, and in September a heavy coating of lime was applied as a top dressing. On September 23 the alfalfa was vigorous and the indications were that it would continue to thrive.

Water Supply and Sewerage

The barn lots, dwelling, and permanent pasture fields are supplied from a well near the premises. By means of a steam engine the water is lifted into a tank and distributed through pipes where needed. The dwelling is equipped with modern conveniences, such as bathroom, water-closet, lavatories, and hot water. The sewage is distributed through tiles in the orchard. The entire system was planned by the owner and the work done by labor on the farm.

Buildings

The buildings have been constructed from the point of view of economy in expense and convenience in use. There are good, substantial horse and cow barns. Their location has been planned in accordance with principles of economy in getting to the fields on the farm. The cow barn and lots are so placed that all the fields may be reached directly. Stock cannot interfere with other buildings and premises. Horses may be taken to the fields by opening one gate. The wagon shed is so constructed that the teams are simply driven through the shed and the wagons left standing in their proper places. No labor and time are consumed in pulling or pushing the wagons into place.

Labor

The System of Employment

The farm laborers, who are hired by the year, have families, and live in houses built especially for their use. One acre of ground goes with each of the houses for a family garden. Barn room and the necessary outbuildings for stock belonging to the laborers are also furnished.

The plan of housing laborers in separate quarters is followed, first, to secure privacy and freedom in the home and to relieve the household from extra labor. Second, experience shows that it is possible to secure better service by having men with families. This plan has been followed with but few exceptions from the first and has been quite satisfactory to the family and to the men. As a rule these men have been recruited from factories, railroads, and mines. They are secured by offering inducements not usually given on farms. Ten hours of labor, for instance, is all that is required, and usually a part holiday on Saturday. Sometimes a whole day is given as time off to work their gardens, etc. Any special service or extra good work is rewarded in some way.

The standard money wages paid is $200 a year. In addition a dwelling, 1 acre of garden, one cow and pasture, and firewood are furnished. Remuneration beyond this is dependent upon the quality of service. If satisfactory service has been given during the first year $25 extra is paid in cash and 5 barrels of corn to fatten hogs. After two years of satisfactory service $50 in cash and 10 barrels of corn are given at the end of each year. If wheat is put in satisfactorily and the crop is good, 30 bushels of wheat in the mill is added to the income of the laborer's family. The laborer may keep as many fowls as he chooses, inclosed. He has the same area of garden as his employer's family and may sell as much as he likes from it.

This plan has enabled the majority of the laborers who have lived on this farm to accumulate a sufficient amount of capital to take up farming for themselves. Some have become owners of farms. The employer takes pains to teach his men good farming methods.

At least one of the laborers is expected to have sufficient mechanical ability to do all needed repairing and to help with the construction of buildings on the farm. For this purpose there is a well-equipped blacksmith and carpenter shop. This provides work on rainy days and in the winter.

Relation Between Owner and Laborer

The proprietor takes a personal interest in the welfare of the laborer and his family. He holds that work cannot be secured unless the laborer is contented and gives his services cheerfully. Mutual goodwill develops when the employer is careful in the selection of his men and permits them to share in the general success of the farm. In 1909 the best laborer on the farm, the man longest in service, concluded to begin farming for himself. The employer bought 20 acres of land for him, which will be paid for in small sums, as he can afford to make payments.

Economical Use of Labor

The economical use of labor is one of the most serious problems in farming. This farmer has plans drawn for the remodeling of buildings, the changing of fences, and the erection of new buildings. "I make these plans as they come into my mind," he says, "and when labor cannot be profitably used in the fields it is employed in carrying out these plans. As a rule, I plan ahead for my farm work and find that it pays, since we lose no time, and labor can always be profitably employed."

During the winter of 1909-10 a new tenant house was planned by the owner and largely constructed by the regular farm labor, with such other help as could be obtained in the community. The large barn on the farm was built entirely by the men and boys of the family and two laborers.

Family Discipline and Occupation

The occupations and labor of the family are not arranged from the standpoint of economic results, but in accordance with the principle stated in the introduction—that of properly training the children and making the home pleasant.

In the home the children, from the time they were old enough to perform any service, have been required "to do something for the profit or welfare of the family before having any breakfast." The work done by the family in the house was systematized in such a way that each member when old enough assumed responsibility for some of the work. This system of training is adapted to the requirements of farm life. There have been developed on the farm, industries such as dairying, poultry keeping, gardening, orcharding, and general farming. At the present time one son makes the apple orchard his specialty. A daughter is responsible for the poultry and another for the marketing of produce and the bookkeeping. The mother does the cooking and superintends the dairy. The father superintends the whole farm, sees that crops are properly put in and cultivated, and that the stock is well cared for. He is in touch with every operation on the farm and inspects all the work that is done.

Special attention is given to the care of work-horses. Every evening the shoulders of work-horses are bathed with cold water. At noon in summer the laborers are given an extra half hour to unharness and reharness the horses. As a result of this special care, sore shoulders on horses are seldom known on this farm.

The Housework Problem

No regular house servants are kept in the home. The work of housekeeping is done by the mother and two daughters. The laundry work is done outside. All heavy work, and such labor as caring for the garden, etc., is done by the men. The cooking arrangements are planned to economize labor and make it as easy as possible. A hot water tank is connected with the plumbing system, so that plenty of hot and cold water can be had at any time. This arrangement, combined with a large sink from which waste is carried to the sewer, eliminates most of the conditions which tend to make housework drudgery. Utensils are kept in their proper places, so that they can be reached with the fewest possible steps.

What Was Raised in the Garden

The Farm Garden

The garden, consisting of about 1 acre of land, is an important feature in the management of this farm. Besides the vegetables and small fruits for family use, the garden brings an income of about $200 a year, the products being exchanged for groceries. This pays the expenses of the table. The principal money crops from the garden are kale, spinach, winter onions (sold in early spring), tomatoes, and cantaloupes. Kale and spinach are not common crops in this section and a ready market has always been found for them. Others, however, are beginning to raise kale on their own account, so that more spinach is now being raised on this farm. Prices have ranged from 40 to 60 cents a bushel for kale and 60 to 80 cents a bushel for spinach. From 250 to 300 bushels an acre is considered a good crop. Besides being raised for the market, kale is used as a general winter cover crop in the garden. On September 23 kale was coming up in all places not in regular garden crops. It is found that kale plowed under in the spring puts the ground in fine condition for cantaloupes.

A specialty has been made of raising late tomatoes to be put on the market when this fruit is scarce. Tomatoes are sold from this garden about the last of October and in November. Most of the products are sold by telephone to the merchants in the town and villages in the county.

What Grows in Garden

The acre of garden is sown each year about as follows, with the permanent small fruit and the asparagus bed, all in rows 160 ft. long:

1 row of grapes.
15 rows of spinach.
6 rows of kale.
10 rows late corn in roasting ear, to be followed by kale as a cover-crop.
4 rows cantaloupes, followed by cover-crop of kale.
1 row oyster plants.
3 rows of late tomatoes for October and November markets.
1 row of kale or spinach.
2 rows lima beans.
1 row celery.
2 rows early tomatoes.
1 row cabbage.
7 rows sugar beets.
11 rows winter onions.
2 rows late corn.
2 rows new strawberry bed.
3 rows cuthbert raspberries.
Old strawberry bed 20 feet wide.
30 feet asparagus bed.
20 rows early potatoes.

A row of grapes occupies the space along the fence at one end of the garden. There are also four short rows outside. The vines are trimmed in winter, but receive no other special care. When the fruit is formed in early spring the bunches are bagged with 2-pound grocery bags, tied securely with a string about the base of the stem. It is stated that these bagged bunches will stay well preserved on the vines until frozen off. The bunches still hanging on the vines unbagged were badly diseased and rotted on September 23.

The Orchard

The 30-acre field now planted in orchard has 15 acres in the bearing stage. With the exception of a few old trees near the house this orchard is 12 to 14 years old. The trees were planted in the ordinary manner about 30 feet apart, cultivated in crops for six or ten years, then seeded to grass and clover. At two different times a bushel of wood ashes was put around each tree. This year manure was hauled between the rows and spread about 10 feet from the trees. Since it has been in grass the orchard has been pastured by sheep and hogs. The branches are thinned out in the dormant season, being trimmed mostly at the top. The trees are sprayed four times a year, twice for the San Jose scale and twice for the codling moth. There is a space of about half an acre with no trees. The orchard had become infested with the San Jose scale and the infested trees were cut out before the proprietor learned how to deal with this pest.

Reference to the table of receipts and expenditures shows that this orchard has been bringing in a substantial income for three years. Last year 800 barrels of apples were marketed at $2.10 a barrel. The varieties grown for market are the Ben Davis and York Imperial. It is planned to increase the size of the orchard until it reaches about 100 acres.

Woodland and Permanent Pasture

About 30 acres of the farm in one tract is in forest, containing many large and valuable oak, hickory, elm, and walnut trees. One field, in which are many of these trees, is known as "The Refuge." Squirrels play without fear in this field. Where the trees have been thinned out in the woodland, bluegrass has come up luxuriantly, so that the greater part of three fields on the farm furnish fine pasture in the early spring.

Stock

In the inventory of January 1, 1905, 182 head of live stock were recorded, and on January 1, 1909, there were 200. Averaged for five years the proportion of different kinds of live stock is about as follows: Horses, 10; cows and stock cattle, 40; young cattle, 10; hogs, 35; and sheep, about 100. On the average about 160 acres remain in pasture. To show that this farm has about the right area in pasture, the following estimate of pasture area for each class of stock is given:

40 cows and stock cattle	80 acres
10 young cattle	15 acres
35 hogs	10 acres
100 sheep	40 acres
10 horses and colts	15 acres
	160 acres

The dairy department of the farm maintains on the average 8 to 10 cows. Butter is made and sold in the local markets. It is found to be more profitable to buy young steers and keep them a year than to buy and feed the same year.

Sheep have always been kept on the farm and the profit in them is very satisfactory.

Ten horses and 2 or 3 colts are kept on the place. Seven horses are used for farm work and 3 for driving.

Tillage

Three-horse plows are run from 9 to 10 inches deep for both corn and wheat. No guessing is allowed on this point, since the furrows are measured frequently to see that the required depth is maintained. The ground for wheat is prepared in the following manner: As soon after harvest as possible the stubble ground is plowed. It is harrowed, then rolled and harrowed again, the second time with a spike-tooth harrow. A spring-tooth harrow precedes the drill. The wheat is sowed about September 25. Wheat to follow corn is put in as soon as possible after the corn is cut, the land being prepared by running a disk harrow over the field and then a spring-tooth harrow. Sometimes the spring-tooth harrow alone is deemed sufficient. The land is then drilled the same as the plowed ground.

Corn is planted on land which has been in pasture. Before plowing, the ground is covered with stable manure. After plowing it is pulverized with a disk harrow and cross-harrowed before the planter. It is harrowed once after planting and then cultivated with two-horse cultivators, the last time or two very shallow.

Fertilizers

The manure spreader is regarded as one of the most important implements on the farm. By means of it, it has been possible during the past few years to cover about 75 acres of the farm each year with stable manure.

It is a common practice in this section to use commercial fertilizers when sowing wheat and grass. The fertilizer is mixed on the farm. It consists of a mixture of one-half of ground raw bone, containing 22 per cent of phosphoric acid and 2½ per cent of nitrogen, and one-half of South Carolina ground rock, containing 16 per cent of phosphoric acid. It has not been the practice on the farm to plow under green crops, although the benefit of such practice is recognized. A straw mulch has been put on part of a field at different times and plowed under. The results have been good. One year the plowing under of straw alongside of land well manured gave about the same results as manured land. In the year 1909 a part of the wheat stubble was mowed soon after harvest to serve as a mulch. On the ground that was mowed the clover was taller and more vigorous on September 2. The difference was to be seen also on September 23. The year 1909 being very dry, this covering no doubt prevented the evaporation of moisture and thus aided the clover in making a better growth.

What City Family Gained by Going to the Farm

Financial Record of the Farm

Inventories

A simple but quite complete record of results on this farm has been kept from the time the farm was purchased until the present time. This is in the form of a diary and a bookkeeping record. On January 1 of each year an inventory was made.

In 1892 the value of the plant was $18,167; in 1905 it was $32,365; in 1909 it amounted to $41,972. It will be seen that the value of the plant has more than doubled during the seventeen-year period. The net income has more than doubled also, so that the increased valuation of the real estate could properly be based on the income.

Receipts and Expenditures

Businesslike records of receipts and expenditures are kept each year, the receipts covering: Cattle, including fat cattle sold; sheep, lambs, and wool; wheat; corn; oats; hay; pork products; live hogs; poultry, dairy, and garden products; wood; apples. Under the expenditures are classified: Labor; taxes; farm supplies; interest on debt; fertilizer; seed; grain and hay for stock (produced on farm and fed); cattle bought for feeding; hogs for feeding; extra labor picking apples, etc. The total receipts for 1909 were $8,097; the expenditures, $2,899; the net income $5,197.

Corn and Wheat

The average yield of wheat during these years was 18 bushels an acre; that of corn nearly 40 bushels (eight barrels) an acre. These were fair yields, somewhat above the average for this region. The average cost per acre of raising wheat was $6 an acre. In this estimate the rent of land and the cost of superintendence are not included. It is believed that these figures fairly represent the cost of raising wheat in this region.

No record is shown of the cost of raising corn. The owner estimates, however, that it costs more to raise corn than wheat.

Hay on this farm is handled by modern machinery. It has produced on the average about 1¼ tons per acre.

What the Farm Has Been Made to Accomplish for the Family

An attempt has been made to set forth the actual operations of the farm. They are not set forth as models. On the whole, however, they represent good farm practice.

To just what degree this family has been successful depends upon the point of view taken. The financial record might seem to some disappointing, considering the amount invested and the number of people taking part in the labor producing these results. In terms of dollars and cents it might not be considered a paying business. On the other hand, if we consider the results produced through the use made of the net income, the farm tells a different and a more satisfactory story. As has been stated, the intention in going on the farm was not primarily to increase the income, nor were money profits more than a secondary consideration. In the first place, the father was ill and was told by his physician that he could not live another year in the city if he continued his business. Some of the children were very young, while others were ready to enter the university. In order to measure success from the standpoint of the father and the mother we must know about the family and what it has accomplished and is doing.

The boys have graduated from a State university and the girls have been educated by private tutors and in girls' schools. At the present time two sons are lawyers, one a minister, one a professor, one a civil engineer, and one a farmer. The education of the children has cost the farm about $10,000. During the time the children were being educated there was no income except from the farm. At the present time these sons and daughters are profitably employed in honorable and useful occupations. While but three remain on the farm, one son and two daughters, all are following their present callings with the end in view of buying farms on which to make their homes.

Each year all members of the family, including grandchildren, spend their vacations on the farm. This is usually in harvest and haying time, so that no extra labor is hired during these farm operations.

The father declares that he has improved in health every year since coming on the farm. Now 76 years of age, he superintends all farm operations and knows the details of everything that is going on. He still enjoys good health and is fairly strong, being able to walk to every part of the farm. It must be remembered that he came on the farm long after most farmers begin to think of retiring, being then 60 years of age.

The farm work is not regarded as drudgery, and there is an atmosphere of refinement about the home that indicates a wholesome life on the part of the family. Everyone on the farm is occupied with some kind of work, and the farm operations go on in a businesslike manner, but no one is rushed or overworked. The mother is well preserved and vigorous, with no trace of overwork, though she has always been active in the management of the home and farm. She believes that the farm life, on the whole, has been easier for her and more enjoyable than the life in the city. Every member of the family is in love with farm life and expects to live on a farm when conditions permit.

Social and Agricultural Problems Satisfactorily Solved

(1) A professional man, with no previous experience as a farmer, with a large and expensive family, is able to rear and educate his children on the income of a well-located farm of 380 acres of good land with a modernized dwelling upon it. On a salary of $3,000 in the city the same amount of money could not have been expended on their education and a fair standard of living maintained. This fact is indicated in the inventory of 1892, which showed the present worth of the family to be $11,028, about $5,000 of which represented the savings of 22 years, the remainder being inherited. The present worth of the family, as represented by the farm in 1909, was $37,662. About $15,000 of this increase in present worth is due to increase in land values. This leaves nearly $12,000 to represent savings during the period when the children were receiving their education.

Business training and experience have been important factors in the success achieved. The father, who, at the age of 76, still keeps in touch with all the farming operations, says: "My life as a soldier taught me how to obey and command, how to economize and endure. My life in the city as a lawyer in charge of a title and trust company taught me system and business methods, all of which were valuable to me on the farm."

A fact of special importance is that these results were accomplished by following the established methods of farming. The yields are a little above the average for the community, because of more thorough tillage methods, but no extraordinary yields are recorded. The diary kept by the farmer and the history as written show keenness and foresight in adjusting crop and stock products to market conditions. The management of farm operations, although adjusted to the comfort and tastes of the family, have been conducted strictly on economic principles. From this standpoint a problem of great interest and importance has been worked out on this farm.

Better Opportunities

(2) The members of the family believe they have had more opportunities in the way of general culture gained by travel, etc., than would have been possible for them in the city. Socially, they think there has been no essential loss; in fact, it is quite probable that the farm life has given better opportunities for culture of the most wholesome kind than the city would have afforded.

(3) The labor problem has been satisfactorily solved on this farm. With such wages as the farm could pay, the laborers have been able to accumulate sufficient property in a few years to take up farming for themselves. At the same time the women of the family have been relieved of extra work and responsibility necessarily attending the boarding and lodging of laborers; also the family life has been more homelike. The service secured in this way has been good, and on the whole the relations between employer and employed have been remarkably satisfactory.

An Acre Garden Pays Table Expenses

(4) It has been found practicable and beneficial to train the children through occupations which require them to assume responsibility. As an inducement to make the chosen line interesting and as an incentive to industry, the profits of the industries on the farm went to the children managing these de-

partments. It is the testimony of all who know the family that the children are all efficient managers.

(5) It has been demonstrated on this farm that an acre garden, without any particular specialization in crop methods, can be made to pay the expenses of the table for a large family.

(6) The value of agricultural literature to the farmer is clearly demonstrated on this farm. Asked what benefit such literature had been to him, the father replied: "I would have been blind without it." The knowledge of spraying for San Jose scale saved a valuable orchard which is today the most profitable part of the farm. Fifteen or twenty well-chosen works on farming, with selected bulletins from State experiment stations and from the United States Department of Agriculture, constitute an important part of the farm library. Several standard agricultural papers are also taken.

A Serious Problem

Since 1905 there has been a marked increase in the income of this farm, due principally to the apple crop. About the same time a sharp advance took place in the price of field crops and of live stock, and these prices have advanced since. As a result of these conditions the net income for 1909 was $5,197.50, the largest in the history of the farm. That the advance in income is not due, however, to increased productivity of the soil is disclosed by the records of the farm. An examination shows that wheat has decreased in yield per acre to a marked extent during the last half of the seventeen years. The average yield of this crop during the first half of this period was 21 bushels, and during the last half 15 bushels per acre. Corn, however, made an average of 35 bushels per acre during the first period of eight years and 43.5 bushels during the last nine years. On the other hand, clover and timothy have about held their own in yield during the entire period, the average being about 1¼ tons per acre. The increase in the yield of corn may be accounted for largely by an important change in the method of tillage. The proprietor of the farm now gives corn shallow cultivation during the last two times, whereas formerly he followed the usual custom of cultivating deep at all times and "hilling up" the corn at the last cultivation. This method of cultivation, together with an increase in the depth of plowing, which is now 9 to 10 inches, has greatly increased the yield of corn. It is to be noted also that a small quantity of lime, 300 to 400 pounds per acre, was put on the land at intervals with beneficial results to clover and thus indirectly to corn.

A statement in a letter received from this farmer shows that the soil has been held up to a normal standard of productivity with great difficulty and is in danger of decline. He says: "We are not getting the results for our labor and land that we should. I think we must work out a rotation that will give us larger yields of wheat. This, I think, can be accomplished by getting rid of the sorrel in our land and growing more clover and other leguminous crops. The wheat crop is the measure of all other values as a rule, and if we can grow more and cheaper wheat it will do more to reduce the cost of living than almost anything else."

This farm has a very good financial record, due to intelligence and the application of business methods in management. But one of the essential factors in the management of a farm is maintaining or strengthening those soil conditions which are favorable to the production of such value-producing crops as it seems desirable to raise.

If such conditions are not maintained certain weed pests, which find the soil favorable, come in and take the place of cultivated crops. The farmer is often misled by this fact and regards the presence of weeds as the direct agent preventing the vigorout growth of crops, whereas the real cause may be the lack of a proper environment for the crops. For this reason attempts are often made to subdue weeds by cultivation alone, which is only partially successful and adds unnecessary expense.

The fact that sorrel is a persistent and troublesome weed on this farm is evidence that fundamental conditions of soil are defective and that other methods besides cultivation must be planned to subdue it and allow the desirable crops to take its place.

It is suggested, therefore, that a rotation of crops and some system of cultivating the soil be adopted which will build up and maintain the land in a condition which will better enable the cultivated crops to combat the weed enemy in the struggle to possess the soil.

The practice of liming the soil is found to be beneficial in this region, stimulating the growth of clover and thus tending to eliminate the sorrel. On this farm lime could be applied at little expense, since in many places limestone rock crops out at the surface. This rock could be blasted out and either ground or burned to be scattered on the land. This could be done at shorter intervals than formerly or a heavier application made of 1,000 or 2,000 pounds to the acre.

Besides the use of lime and commercial fertilizer the following rotations are suggested, the practice of which would speedily supply humus and nitrogen, materials which are essential in maintaining the soil in a condition favorable to field crops:

Corn plus crimson clover or rye and hairy vetch.
Cow-peas.
Wheat.
Hay (6 pounds of clover seed the following spring).
Pasture.

Crimson clover has not generally proved successful here and should be tested on a small area before sowing a large quantity. Three conditions at least are essential for a satisfactory growth of crimson clover. The soil must be inoculated with the proper bacteria, it must contain a fair amount of humus and nitrogen, and the seed must be sown sufficiently early in order to make a vigorous growth before winter.

Lessons Learned on This Farm

Rye and hairy vetch are adapted to more general conditions, may be sown later than crimson clover, and will grow under conditions that will not produce crimson clover. It is essential that the land be artificially inoculated for hairy vetch unless the bacteria are known to be in the soil. The 6 pounds of clover seed to be sown the spring following the hay crop are essential in getting a stand of clover to plow under the next year for corn.

Alfalfa may be grown successfully on clean and fertile land in this region. When these conditions can be met, the following rotation is advised:

Corn plus crimson clover or rye and hairy vetch.
Cow-peas.
Wheat.
Alfalfa.
Alfalfa.
Alfalfa.

On land that is fairly rich in nitrogen and humus, if the problem were simply to maintain fertility, a shorter rotation could be adopted by cutting out one year of wheat on this farm, making it a four-year rotation, which would have the effect of growing more legumes. It has been demonstrated that such a rotation as this would gradually increase the nitrogen and humus content of the soil. Minnesota Agricultural Experiment Station gives the results of experiments carried on in several places through a series of 10 years with a rotation of corn, wheat, hay, and pasture, and it was found that the humus and nitrogen could not only be maintained but increased.

Farm Implements and Their Cost

The following is a complete list of the machinery and implements used on the farm described and their cost:

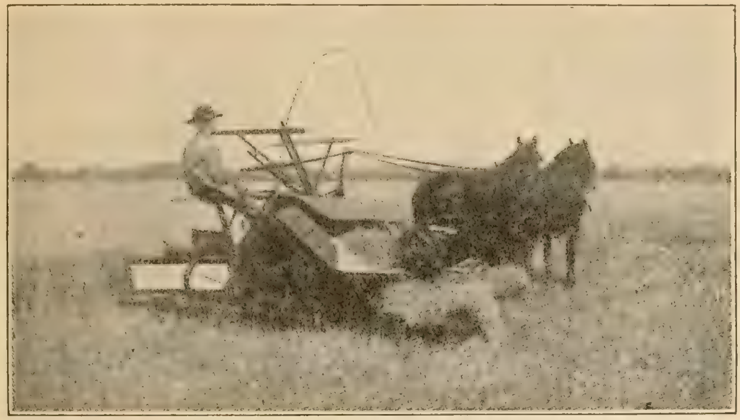
1 seven-foot-cut wheat binder	$ 135
1 six-foot-cut wheat binder—old—for use in case the other gets out of repair	100
1 five-foot mower	35
1 four-foot mower	30
1 manure spreader	80
1 ten-spout wheat hoe drill	75
1 eight-spout wheat disk drill	60
2 disk harrows (one tongueless)	50
2 spring-tooth harrows	27
2 spike-tooth harrows	24
2 two-horse chilled plows	12
2 three-horse chilled plows	18
2 walking wheeled double cultivators	50
4 double-shovel plows	10
1 double smoothing harrow	12
1 two-row disk corn planter	40
1 single-row corn planter	12
1 iron roller	12
1 plank drag	2
1 hay loader	60
1 side-delivery horserake	40
2 single-horse cultivators	14
2 four-horse wagons	120
1 two-horse wagon	50
2 road beds for wagons	40
2 hayracks	20
1 steel spring-tooth hayrake (10 feet)	20
1 spring-tooth weeder	9
	$1,157

HASTENS
THE HARVEST
FINISH

BINDER AND LOADER

DO WORK
OF SEVERAL
MEN

These Are Among the Larger of Farm Implements



A modern self-binding harvester. One man cuts and binds all of the grain and carries the budles into windrows. One man can shock the grain after the harvester. Two men in this way do the work of the six that were required to operate the old style reaper.

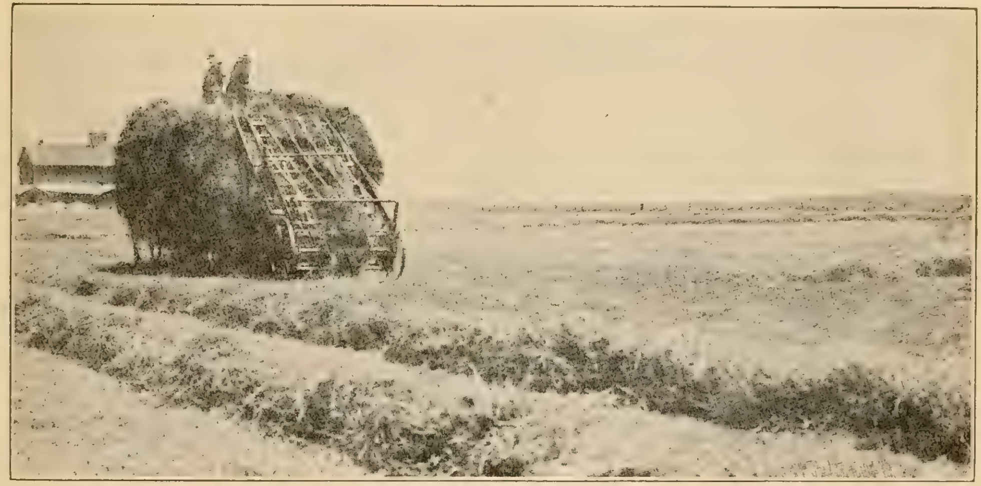


Illustration from Keystone Loader Company.

VALUE OF VARIOUS FOODS COMPARED WITH HAY

Value of Hay as Food

Table showing amount of hay or its equivalent per day required by each 100 pounds of live weight of various animals:

	Pounds
Working horses	3.08
Working oxen	2.40
Fatting oxen	5.00
Fatting oxen when fat	4.00
Milch cows	2.25 to 2.40
Dry cows	2.42
Young growing cattle	3.08
Steers	2.84
Pigs	3.00
Sheep	3.00

It has been estimated that one hundred pounds of good hay will possess the same feeding value as

	Pounds
Wheat	44½
Corn	62½
Clover, Red, Green	373
Beets	669
Beans	28
Barley	58
Carrots	371
Oil Cake, linseed	43
Buckwheat	78½
Oats	59
Rye	53½
Potatoes	360
Peas, dry	37½
Oat Straw	347
Clover, Red, Dry	88
Turnips	469
Carrot leaves (tops)	135
Rye Straw	429

Average Period of Gestation

The period of gestation in animals varies considerably, but the following is an average period based on a long series of observations:

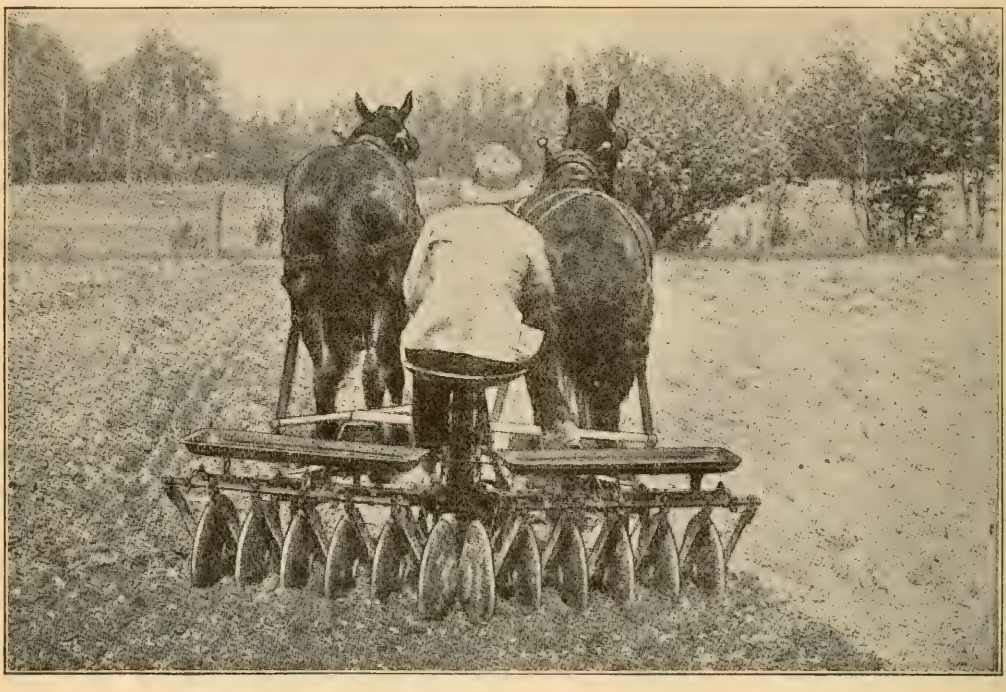
Elephant	2 years
Camel	11-12 months
Ass	12 months
Mare	11 months
Cow	9 months
Sheep	5 months
Goat	5 months
Pig	3½ months
Bitch	9 weeks
Cat	8 weeks
Guinea pig	65 days
Rabbit	30 days

DOES NOT
TEAR SOIL

NEW FARM IMPLEMENT

CUTS SOIL
IN PIECES

Unlike Tooth Harrow, the Disk Pulverises Soil by Cutting



The Disk Harrow

By Henry Wallace. Editor "Wallace's Farmer," Des Moines, Iowa

The to us unknown man who invented the disk, which slices the plowed soil instead of tearing it to pieces with the harrow, deserves a monument higher than erected in Washington in memory of the Father of his Country. He ranks with that other unknown man who invented the knife to cut his meat, rather than tear it to pieces with his fingers and his teeth. Each of them builded better than he knew, and deserves the thanks of posterity while grass grows and water runs. The disk implements, whether harrow, cultivator, grain drill or roller, are revolutionizing modern agriculture.

The disk harrow, properly used on corn-stalk ground, at once acts as a stalk cutter, levels the surface, and forms a proper seed-bed for spring grain in the states that are subject to deep winter-freezing, without breaking the capillary connection between the seed-bed and the undersoil. In corn-stalk lands which need plowing for spring grain, previous disking prevents clod formation and restores capillary connection by providing a mulch of loose dirt, which fills up the spaces made by the plow, especially if disking follows the plow, which it should always do. If corn is to be followed by corn, the disk should always precede the plow, thus cutting the corn-stalks, preventing clod formation by conserving moisture, and providing a mulch of loose dirt that will fill up the air spaces left by the plow and germinate the weed seeds near the surface, to be killed when plowed under. The disk should follow the plow; and if the harrow follows at right angles you have the best seed-bed for corn possible on that kind of land.

Where sod is to be plowed for corn in the fall, running the disk perpendicularly or straight, thus slitting the sod, renders the plowing much easier and in the spring requires less work to settle the furrow and restore contact with the under furrow, thus restoring capillary connection with the undersoil. Whether plowing in the fall or spring, the disk should run with the furrow. In preparing the seed-bed, if a second disking is necessary it should be at right angles.

Antidotes for Poisons

The first thing to do in most cases is to induce vomiting, if possible. Give an emetic; a tablespoonful of powdered mustard in a tumbler of warm water is good. Warm water and salt is also efficacious.

For Poisoning from Opium, Laudanum, and Morphine: An emetic should be followed by strong coffee or the white of an egg. Keep the patient walking for two or three hours.

For Poisoning from Arsenic, Corrosive Sublimate, Verdigris, Blue Vitriol, and Vegetables Kept in Copper Vessels: Give an emetic and the white of an egg, sweet oil and milk.

For Sugar of Lead Poisoning: Give an emetic and epsom salts.

For Poisoning from Hemlock, Aconite, Belladonna, and Foxglove: After emetic give tannin and stimulants.

Strychnine: First give an emetic, and then large dose of bromide of sodium (60 grains in solution). Repeat every hour until three or four doses have been taken.

Toadstool Poisoning: Give emetics promptly and then castor oil and stimulants. Apply heat.

Poison Ivy or Oak: There are three generally effective remedies for poison ivy or mercury. One is to apply hot water to the poisoned surface. Another is peroxide of hydrogen. The third is to apply a solution of sugar of lead, about 40 grains to a pound of water. Two other remedies that are more or less effective are baking soda and dry starch.

IN
AGRICULTURE

TECHNICAL TERMS

IN
FOOD

Terms Used in Consideration of Fertilization, Grains, Etc.

Acid phosphate or superphosphate of lime, is finely-ground, raw, rock phosphate mixed with about an equal weight of sulphuric acid. The acid phosphate is more soluble in water and thus more readily assimilated by plants than raw phosphate applied as a fertilizer.

Aftermath. A second crop of grass in the same season; rowen.

Albuminoid nitrogen is nitrogen in the form of albuminoids, which is the name given to one of the most important groups of substances classed together under the general term protein. The albumen of eggs is a type of albuminoids.

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Alkali soils.—Soils found in arid or semi-arid regions, which contain an unusual amount of soluble mineral salts (alkali), which effloresce or bloom out in the form of a white powder or crust in dry weather following rains or irrigation. Two distinct classes of alkali are known: White alkali, composed largely of sulphate of soda and common salt, which is comparatively harmless; and black alkali, composed largely of carbonate of soda, which is highly corrosive and destructive to vegetation.

Alkaloids are a class of bitter, nitrogenous constituents of plants which have active medicinal or poisonous properties. Quinin, morphin, strychnin, etc., are alkaloids.

Amid nitrogen is nitrogen in the form of amids, one of the groups of substances classed together under the general term protein. Amids, unlike albuminoids, are usually soluble in water, but are generally considered of less value as food than albuminoids.

Ammonia is a compound of nitrogen more readily available to plants than organic nitrogen. The most common form is sulphate of ammonia, or ammonium sulphate. It is one of the first products that results from the decay of vegetable or animal substances.

Ammoniated superphosphate is the trade name for a mixture of a superphosphate with some material supplying nitrogen.

Analysis is a separation into constituent parts.

Annuals are the plants which last but a year. The seed, planted in the spring, in one season develops into a mature plant which produces its flowers, fruit, and seed, and dies in the fall. The annuals must be renewed each year, and most of them thrive best where there is no shade. Sweet peas and Indian corn are samples of the annuals. The word annual comes from the Latin word for year—annus; the name biennials—two-year plants—is from the same word with "bis," twice; while the perennials—living on from year to year—have the same root-word with "per" in the sense of through all the years.

Ash is what is left when the combustible part of a feeding stuff is burned away. It consists chiefly of lime, magnesia, potash, soda, iron, chlorin, and carbonic, sulphuric, and phosphoric acids, and is used largely in making bones. Part of the ash constituents of the food is stored up in the animal's body; the rest is voided in the manure.

Atomic Theory is the doctrine that an element is composed of infinitesimally small particles to which the name **atom** is given. The atoms of different elements combine in certain definite proportions to form molecules. Thus water, which chemically represented by the symbol H_2O, meaning that oxygen and hydrogen combine to form water in the definite proportion of two parts of hydrogen to every one part of oxygen.

Available phosphoric acid is the soluble and reverted taken together.

Babcock test. A method for rapidly determining the fat contents of milk by the aid of chemical reagents. Invented by Dr. S. M. Babcock, of the Wisconsin Agricultural Experiment Station. The little machine for applying this test is made in several patterns, the principle applied in all is the use of centrifugal force aided by some chemical agents, notably sulphuric acid. The handling of the machine can be readily learned by a careful person.

The milk or cream to be tested is measured in a pipette and placed in a bottle which has a long, slender, graduated neck; sulphuric acid is then added, and the bottle shaken a few moments until the mixture becomes dark colored. The acid, without affecting the fat, dissolves the other milk solids, which keep the fat globules apart. The bottle is then placed in the machine by which it is rapidly revolved with the neck toward the centre. The fat is thus forced toward the neck by the other contents of the bottle, which are heavier and therefore thrown away from the centre.

Bacterium (plural, Bacteria) is the name applied in common to a number of different or closely related microscopic organisms, all of which consist of single short cylindrical or elliptical cells or two such cells joined end to end and capable of spontaneous movement. Many kinds of bacteria are harmful and cause diseases and other injurious effects, but many are beneficial. Among the latter are those which give aroma to tobacco and flavor to butter and cheese, and those which enable leguminous plants to use the free nitrogen of the air.

Barkbound. Having the bark too firm or close, as trees; this disease is usually cured by slitting the bark.

Biennials. A biennial plant is one which takes two years to develop flower and fruit. The first year the seed is planted the root and leaves are formed; the second year, flower and seed; the plant then dies down. The hollyhocks are an illustration of the biennials.

Boll weevil. A small insect which in its larva state feeds within the bud or boll of cotton. This grub is less than a quarter of an inch in length, is of white color, and without feet; developing in two weeks into the adult state, when it becomes a hard-shelled insect with a head prolonged into a slender snout that conceals the jaws with which the weevils puncture the surface of their food supply.

Bordeaux mixture is a mixture of copper of sulphate, freshly slaked lime and water. It is used as a fungicide and also to prevent attacks of some insects.

Brown rot is a disease which appears first as a small, dark-brown decayed spot on any half-grown stone fruit such as the peach or the plum, usually causing the fruit to shrink and wither. The disease is caused by a fungus growth and the twigs of apricots and peaches may be blighted by this disease entering from the affected flower or fruit.

Budding. The insertion of a bud of one tree under the bark of another, for propagation. It must be done during the growing season.

Butter-fat.—The oleaginous globules in milk surrounded by casein, from which butter is made in the process of churning. A pound of butter contains about 14 oz. of butter-fat.

Buttermilk.—That part of milk which remains after the butter is extracted.

Calyx.—The outermost series of leaves (called sepals) of the flower, usually green, but sometimes colored.

Carbohydrates.—The nitrogen-free extract and fiber are often classed together under the name of carbohydrates. The carbohydrates form the largest part of all vegetable foods. They are either stored up as fat or burned in the body to produce heat and energy. The most common and important carbohydrates are sugar and starch.

Cat's Tail Grass. Another name for timothy or herd's grass, so called from the shape of its heads.

Cellulose is the chief constituent of crude fiber.

Chard Beet. A variety of which only the leaves are used, boiled as Spinach. The Swiss Chard is one of the principal vegetables of the laboring classes of Europe.

Chemical Analysis of Soils. An analysis to find the constituent elements in any given soil which may indicate what the soil needs, if a very marked differences exist —as in a soil derived from limestone and a soil derived from sandstone. In soils of similar character analyses are seldom of much value because difference of fertility is either due to variations too minute for ordinary analysis to determine, or else is due to causes not connected with the amount of plant food.

Chlorophyll.—The green coloring matter of plants. By the combined action of chlorophyll and sunlight plants are able to build tissue from the carbon dioxid and water of the atmosphere.

Citrus fruits. The citron tree is a tree bearing fruit resembling a lemon; it gives its name to the family of citrus fruits which comprise the lemon, lime, orange, grapefruit, shaddock, and citron.

Clay. The name given to various earths.

Complete fertilizer is one which contains the three essential fertilizing constituents, i. e., nitrogen, phosphoric acid, and potash.

Conidium (plural Conidia) is one form of spore or reproductive body of fungi.

Corn is the name used in Europe as a general term for all cereals. This is the sense in which the word is translated in the Bible when it speaks of Jacob's sons saying, "There is corn in Egypt." The word originally meant any hard, edible seed, grain, or kernel. The colonists found this plant, properly called maize, cultivated by the Indians, and used the name Indian Corn to distinguish it from other corn of the mother country. In Latin America—Mexico, Porto Rica, etc.—"maiz" is the term generally used.

Corn Smut. A cancerous outgrowth with a thin covering over black, dust-like masses, that occurs on various parts of the growing corn, notably the ear and tassels. Well manured soil favors the growth. Frequent spraying of stalks and ground with a fungicide will prevent spreading but is expensive. The most efficient and economical method of prevention is by the collection and burning of all smut masses before they ripen and scatter their spores.

Corn tassel. The pendent inflorescence at the top of a stalk of corn; also the silk protruding from an ear of corn. Corn is fertilized by the pollen from the tassel on the stalk applied to the silk. The tassel at the top is formed of many flowers which usually contain only stamens—the young ears bear the pistils, which are the so-called silk.

Corolla.—The inner circle or set of leaves (called petals) of a flower, usually bright colored.

Corrosive sublimate is a very poisonous compound of mercury and chlorin, used as a fungicide.

Cotton boll. The large capsule into which the pistil of the cotton flower develops. It is about the size and somewhat the shape of a hen's egg, except that it is distinctly pointed at the free end. When ripe the bolls open, disclosing the dark seeds covered with the pearly white fibres for which the cotton-plant is cultivated. Different varieties of cotton require from 50 to 65 bolls to make a pound of cotton.

Cream.—The richer and butryaceous part of milk, which, when the milk stands unagitated in a cool place, rises and forms a scum on the surface.

Cream Separator. A machine so constructed that the butterfat or cream in milk, by rapid agitation, will be thrown to one side so separated from the milk that it will flow in separate stream, the milk from the machine flowing in another stream. See illustration elsewhere of cream separator.

Cross-pollination, as here used, means the conveying of pollen to pistils of flowers of a plant of another variety. In case of plants propagated by seeds it also means the transfer of pollen to a pistil of another plant of the same variety.

Culm.—The stem or straw of grains and grasses.

Culture, as here applied to bacteria or other organisms, is the product of their growth under artificial conditions.

Deciduous trees. Trees that shed their leaves in the autumn.

Denitrification is the process, due to microorganisms, by which the readily available nitrates are converted into less valuable forms of nitrogen.

Dent corn. A variety having the kernel furrowed or depressed at the large end; the common kind.

Diffusion residue, or beet chips, consists in the residue of the beet after extraction of sugar at the sugar factories under pressure in the diffusion batteries.

Digestible matter is that portion of the food eaten which is actually digested. The rest is excreted and is of no aid in nutrition.

Drupe.—A fruit consisting essentially of a hard-shelled nut or stone surrounded by a fleshy pulp, as the peach, plum, cherry.

Dry Matter is the portion remaining after excluding the water.

Eau celeste is a solution of copper sulphate in water to which ammonia is added, and it is used as a fungicide.

Ether extract is the same as the fat or crude fat of feeding stuffs.

Euonymus. The botanical name for the burning bush or spindle tree; the native American species is the well-known Waahoo tree with its red berries which stay on the tree all winter.

Exochorda (Pearl Bush). The name refers to the cords by which the seeds are suspended. A beautiful hardy tall-growing shrub or tree, introduced from China, as yet comparatively little known. It is propagated by seeds, layers, and suckers, and is suitable for parks and private grounds in sections east of the Mississippi and north of the Ohio.

Exogens. Plants that increase their growth by adding successive layers to the outside, as the oak tree, whose annual growth can be noted when the trunk is sawn across, by the distinctly marked series of rings, each of which marks a year's growth. Most of the primary plants are exogens.

Fat, or the materials dissolved from a feeding stuff by ether, is a substance of mixed character and may include, besides real fats, wax, the green coloring matter of plants, etc. The fat of food is either stored up in the body as fat or burned to furnish heat and energy.

Feeding standards are statements of the approximate amounts of digestible protein, fat, carbohydrates, etc., adapted to animals under different conditions.

Fecundation is the action of pollen upon the ovules, rendering them capable of becoming seeds.

Fiber, sometimes called crude cellulose, is the framework of plants, and is, as a rule, the most indigestible constituent of feeding stuffs. The coarse fodders, such as hay and straw, contain a much larger proportion of fiber than the grains, oil cakes, etc.

Flow pipes and returns.—In the heating systems of greenhouses it is a common practice to have one or two main pipes, known as flow pipes, to supply the steam or hot water to the house. These pipes frequently run the full length of the house and then unite with smaller pipes known as return pipes, or "returns," which carry the hot water or steam through the house and back to the boiler.

Fodder, when applied to corn, is the plants, including the ears, which have been cut and field-cured. The residue, after the ears have been removed is properly termed **Stover.**

Formalin is a 40 per cent solution of formic aldehyde, used as a disinfectant, preservative, etc.

Fungus (plural, Fungi) is a low form of plant life destitute of green coloring matter; molds and mushrooms are familiar examples. Many diseases of plants are due to fungi.

Fungicide is a substance used to destroy fungi or prevent their growth.

Garden bed. A plat or piece of ground in a garden, usually a little raised above the adjoining level.

Gluten is the name given to one of the most important of the nitrogenous substances classed together under the general term "protein." "Wheat gum," obtained by carefully chewing wheat, is a familiar example. It is the gluten of flour that gives consistency to the dough.

Heavy Soil. A soil that is moist, deep, soft, or miry, as a clay soil.

Hessian fly. One of the most destructive of the 100 species of insects which prey upon the wheat. Its ravages may be recognized if in the early spring the wheat is noticed falling down unaccountably. This small, two-winged insect, belongs to the same order as the mosquito and the common house-fly—known as Diptera. It deposits its eggs between the sheath and the stem of wheat at the base of the stock, and the puparium, which resembles a flaxseed in form and color, hatching out in a few weeks' time, feeds on the tender wheat stem, cutting it off near the ground.

Humus is the name applied to the partially decomposed organic (animal and vegetable) matter of the soil. It is the principal source of nitrogen in the soil.

Hygroscopic water. The water lost and gained by a soil through artificial drying. Not the moisture naturally removed by drainage or by evaporation; these are called the first "drainage water," the last "capillary water" since it finds the surface by capillary attraction.

Indian Meal is the meal of maize, or Indian corn; cornmeal.

Inoculation is the introduction of bacteria or other organisms into surroundings suited to their growth with a view to producing the effects which are the result of their activity.

Internode.—The part of the stem between the nodes.

Intercultural tillage means tilling the soil while the plant is growing, it is done primarily to kill weeds, it also lets in air and rain more freely to the roots of the plant, and, in dry periods prevents the evaporation of water

Technical Terms—Continued

from the surface. The intercultural tillage of corn should be shallow, not more than two inches deep near the plant, since any breakage of the roots of corn is injurious, and the most of the roots lie from two to four inches below the surface and six inches from the plant. Three to five cultivations of corn are usually enough; nothing is gained by cultivating corn after the plant is three to four feet high, provided the land is free from weeds. Farmers refer colloquially to this stage as "when the corn is laid-by."

Kainit is an impure form of potassium sulphate and ordinarily contains about 12 to 20 per cent of potash.

Lactation.—The formation or secretion of milk. The "period of lactation" as applied to cows means the length of time since calving that they have been giving milk.

Lard is obtained from the fat of swine when it is heated to a boiling point and then strained.

Layering. Method of propagating woody plants by bending down branches and burying in adjoining soil.

Legume. Any plant belonging to the pea family, including the leguminous forage crops, alfalfa, Japan clover, the soy bean, cowpea, velvet bean, and vetch. The leguminous crops, including the clovers, are valuable as fertilizers in that they add nitrogen to the soil in a form easily available for the crops that are planted after them.

Legume seeds are always found in a pod which contains one or more seeds; their peculiarity is that while other seeds have a small embryo the seed-coat of the legume is entirely filled by the large embryo. They are exceedingly rich in nitrogen.

Leguminous plant is a plant of the botanical order Leguminosæ, the more common representatives of which are clover, peas, beans, etc.

Light Soil. One that is loose, easily pulverized.

Lime is, strictly speaking, calcium oxide, a combination of calcium and oxygen.

Liquid-ambar. A genus of trees of the witch-hazel family. It is found in Mexico and the United States and is known as the sweet-gum, in this country. Its home extends from the Rio Grande to the Potomac.

Loafer Land. The Agricultural Department name for stump-land, where the trees have been felled and the stumps left.

Loam. A natural mixture of sand and clay with organic matter (decayed vegetable or animal substances); a species of earth or soil readily fusible in water.

Melilotus. A genus of the leguminous plants, the sweet clovers. They are natives of southern and central Europe and western Asia. White melilot has been recommended as a fodder plant under the names of Bokhara clover and Cabul clover. This variety (Melilotus alba) is common along our roadsides and is sometimes cultivated as a forage crop for bees. The very name melilotus comes from the Greek word for honey, "meli" and "lotos."

Micro-organism, or **microscopic organism,** is a plant or animal too small to be seen without the aid of a compound microscope.

Milo maize. A name given in some localities to Kafir corn, which is also known as Egyptian rice corn, dhura, African millet, Jerusalem corn, and Guinea corn.

Mulching, covering the surface of the soil by a layer of straw, shavings, leaves, tanbark, manure, or other matter, to reduce evaporation and so keep the moisture beneath the surface.

Narrow ration is one in which the ratio of protein to other constituents is narrow, i. e., one comparatively rich in protein.

Nitrates furnish the most readily available forms of nitrogen. The most common are nitrate of soda and nitrate of potash (saltpeter).

Nitrification is the process by which the highly available nitrates are formed from the less active nitrogen of organic matter, ammonia, salt, etc. It is due to the action of minute microscopic organisms.

Nitrogen exists in fertilizers in three distinct forms, viz., as organic matter, as ammonia, and as nitrates. It is the most expensive fertilizing ingredient.

Nitrogen-free extract includes starch, sugar, gums, and the like, and forms an important part of all feeding stuffs, but especially of most grains.

Node.—That part of the stem (usually somewhat enlarged and hardened, especially in grains and grasses) to which the leaves are attached.

Nutritive ratio is the ratio of the digestible protein (taken as 1) to the other digestible materials of the food. Thus, if a ration contains one part of protein for every five parts of the other digestible materials, the nutritive ratio is 1:5.

Oleomargarine is made from various mixtures of oleo oil, cottonseed oil, neutral lard and milk or butter. Is nutricious and sometimes passes under the head of "butterine."

Organic matter is the dry matter less the ash.

Ovules are bodies which, when acted upon by pollen, become seeds.

Osmosis is the impulse or tendency of fluids to push their way through porous matter which separates them, and mix together. Exosmosis is the passage of liquids or gases or vapors from within outward and endosmosis is the similar passage of a fluid substance inward. Largely used in speaking of the passage of fluids, whether watery or gaseous, through the separating tissues of plants.

Pasteurized milk or cream is that which has been heated to a temperature (about 155° F.) which does not kill all the bacteria, but only those which are in a vegetating condition and ready to begin their activity at once.

Perennial, literally, lasting through all the years. The perennial plants, once planted, continue their growth year after year, as the lilacs, or the garden sage. Those perennials which shed their leaves in autumn are called deciduous; those which keep their leaves through the winter, evergreen.

Perennial grasses are, practically, the meadow grasses. They propagate themselves from year to year, increasing by new culms which soon become independent plants. Timothy is not, strictly speaking, a perennial, but an annual. However, under favoring circumstances, by seeding itself yearly the same result is attained.

Peruvian cotton, as its name implies, originated in Peru, but it is raised largely also in Brazil. It is a perennial plant; however, only the growth of the second and third years is utilized. The staple lint is mostly shorter, coarser, and more wiry than American upland cotton.

Phosphoric acid, one of the essential fertilizing ingredients, is derived from materials called phosphates. It does not exist alone, but in combination, most commonly as phosphate of lime in the form of bones, rock phosphate, and phosphatic slag. Phosphoric acid occurs in fertilizers in three forms—soluble, reverted, and insoluble phosphoric acid.

Pistil is the ovule-bearing organ of the flower. It is often called the fertile or female organ.

Pollination of corn. Corn is wind-fertilized, since the extremely abundant pollen—estimated 9,000 pollen grains for each grain of corn—is carried long distances by wind and often is deposited on silks remote from the tassel bearing the pollen.

Potash, as a constituent of fertilizers, exists in a number of forms, but chiefly as chlorid or muriate and as sulphate. All forms are freely soluble in water and are believed to be nearly, if not quite, equally available, but it has been found that the chlorids may injuriously affect the quality of tobacco, potatoes, and certain other crops. The chief sources of potash are the potash salts from Stassfurt, Germany—Kainit, sylvinit, muriate of potash, sulphate of potash, and sulphate of potash and magnesia. Wood ashes and cotton-hull ashes are also sources of potash.

Process butter is made by treating old or rancid butter by melting, skimming and allowing the brine and curd to sink to the bottom, whence it is drawn off. Air is then blown through the melted butter-fat and the product is churned with milk or cream. It is then considered "renovated," by which name it is sometimes known.

Protein (nitrogenous matter) is the name of a group of substances containing nitrogen. Protein furnishes the materials for the lean flesh, blood, skin, muscles, tendons, nerves, hair, horns, wool, casein of milk, albumen of eggs, etc., and is one of the most important constituents of feeding stuffs.

Pure culture is a culture containing one kind of organism. Pure cultures of yeasts are used in wine making, and pure cultures of bacteria are used in butter and cheese making, and for other purposes, to insure a uniform product.

Rice birds are the same bobolinks which in the earlier months of the summer delighted the ears of Northern farmers with their song, and gladdened his eye with their bright plumage; in their Southern migration they reach the rice fields in time to glut their appetite on the ripening grain and prove themselves a pest in the paddy-field; so much so that men and boys, called "bird minders," are hired to drive them away. They are called reed-birds, also, from their feeding-grounds.

Technical Terms in Agriculture—Continued

Rowen. A stubble-field left unplowed until late in the autumn, that it may be cropped by cattle. The second growth of grass in a season after the hay has been mown.

Sainfoin is a valuable forage plant of the order of legumes; it is a small perennial shrub, native of western Asia and northern Africa, hence thrives in the light, dry, sandy, or calcareous soil found in our Southern or Western States. Its long taproots, descending deep for moisture, enable it to withstand long-continued droughts at the same time bringing up from the depths nutriment for the crops that follow and rendering the subsoil loose and porous for subsequent cultivation. The sainfoin is very nutritious and whether fed green or made into hay is greatly relished by all domestic cattle. It is said to be the favorite food of the ass and from this takes its botanical name, Onobrychia — onos, the ass, and brycho, to bray. Sainfoin will crop seven to ten years, according to the nature of the soil, but its yield is greatly increased by top dressing.

Sea Island Cotton is a variety of cotton found in the West Indies when Columbus discovered America. The plants differ from the upland cotton in their larger growth, 3 to 8 feet high, with longer and more flexible branches and more deeply lobed leaves. Instead of being white the flowers are bright yellow, the bolls are sharp-pointed and have three instead of four lobes. It is grown in the U. S. chiefly on islands and adjacent mainlands of South Carolina and Georgia. Sea Island Cotton commands a higher price in the market, but it yields less an acre and costs more to pick and gin than ordinary varieties.

Setting Hen. A hen which gives attention to incubating eggs.

Specific gravity of solid substances is the ratio of the weight of a given bulk of the body to that of an equal bulk of water; or stated in another way, the ratio of the weight of the substance in air to its weight in water.

Spore is a minute body, borne by a fungus, which is capable of reproducing the fungus directly. It corresponds in function with the seed of higher plants.

Stamen.—Part of a flower which produces pollen.

Staminate, producing stamens.

Soluble phosphoric acid is that form which is soluble in water and readily taken up by plants.

Subsoil. The bed or stratum of earth lying next below the surface soil. It does not usually contain plant food in a form ready to be taken by the plant.

Subsoil plow. A plow adapted to follow the common plow, and loosen the subsoil at the bottom of the furrow without raising it to the surface, in this way forming a porous foundation for the mold which will be turned upon it by the ordinary plow in its next furrow.

Sulphuric acid; oil of vitriol. A heavy, oily, very corrosive liquid (H_2SO_4) produced commercially by burning sulphur in atmospheric air and passing the sulphurous oxid formed into a lead chamber along with the vapor of nitric acid. It is the most extensively used of all the acids, and is the primary agent for obtaining almost all the others by disengaging them from their saline combinations. It is used in breaking up organic substances into their element, as sugar; applied by Dr. Babcock in the standard "Babcock test" for separating the butterfat from milk.

Superphosphate.— In natural or untreated prosphates the phosphoric acid is insoluble in water and not readily available to plants. Superphosphate is prepared from these by grinding and treating with sulphuric acid, which makes the phosphoric acid more available to plants. Superphosphates are sometimes called acid phosphates.

Thrip. A genus of small, spotted flies, many of them destructive to plant life. One species is specially pernicious in the onion bed.

Tilth is the state of being prepared for a crop; tillage. In rare instance that which is tilled; tillage-ground.

Viscosity.—Stickiness; gumminess; the quality of matter having a thick or sticky consistency.

Water is contained in all foods and feeding stuffs. The amount varies from 8 to 15 pounds per 100 pounds of such dry materials as hay, straw, or grain to 80 pounds in silage and 90 pounds in some roots.

HYDROPHOBIA

Although this is not, strictly speaking, a technical term, it is a term often applied to a dog which, frothing at the mouth, is supposed to be dangerously mad.

Oftentimes this frothing is the result of exhaustion and over-heat. While it is necessary to be cautious and careful in confining the dog that exhibits these symptoms, it is well not to kill the animal until the cause of its peculiar action is perfectly understood.

A frequent cause of unusual action on the part of the dog may be, and probably is, lack of water to drink.

Dog keepers should always keep a dish of fresh water accessible to dogs on the premises.

The Family Dog on the Farm

The origin of the dog is a much debated question, some considering the breed derived from the wolf, an opinion which is based on resemblances, the susceptibility which the wolf shows of being domesticated, the readiness with which the two animals breed together, the equal period of gestation, and their general appearance and similarity in structure.

Various attempts have been made to make a systematic classification of the varieties of dogs but without much success. One authority divides dogs into six groups, as follows: 1. Wolf dogs, including the Newfoundlands, Esquimaux, St. Bernard, shepherd's dog, etc. 2. Watch dogs and cattle dogs, including the boar-hound, the Danish dog, etc. 3. Greyhounds, the Irish hound, etc. 4. Hounds, the bloodhound, staghound, foxhound, setter, pointer, spaniel, cocker, poodle, etc. 5. Cur dogs, including the terriers and their allies. 6. Mastiff, including the different kinds of mastiffs, bull-dog, pug-dog, etc.

The female has six to ten pups, and goes with young nine weeks as a rule. The young are born blind, their eyes opening in ten or twelve days. Their growth ceases at two years of age. The dog commonly lives about ten or twelve years; at the most twenty.

The dog's fidelity and affection endear him to the human family. As pets, dogs are highly valued. They are agreeable companions for children, a boy playing with his dog getting a great deal of pleasure and a great deal of healthful exercise.

With careful training and under rigid restriction the dog may be of service on the farm; if rightly restrained and kept at home he may be allowed in suburban towns, but in cities and thickly settled regions he is out of place.

Wherever he is kept he should have a comfortable doghouse and be taught to stay there nights and at proper hours. He should be regularly and so abundantly fed that he will not be compelled to wander about the neighborhood in search of food.

He should not disturb people by barking, and particularly should he not bark at pedestrians or passing teams.

To teach him not to chase cats, rabbits, squirrels or any little animals on the premises the master will break this habit with the aid of a handful of small pebble stones vigorously thrown with a sharp command to "stop it." Assisted by a quart of pea-sized pebbles, a dog's bad manners and the quarrels of cats in the neighborhood may be abolished in a short time.

On the farm especially the dog may be trained to be of much service in watching property and guarding and driving animals. To be of use, he should never be allowed to form the habit of killing sheep and doing other mischief, the result of wandering away from home after dark.

VIEW OF
GLASS FRAME

HOTBED

TOOLS IN USE
ON THE FARM

Directions for Making a Hot Bed

A hotbed consists of a frame covered by a glazed sash. Heat is secured from a bed of fermenting manure set in the frame below the ground level. The plants are grown in soil placed to a depth of five to eight inches over the manure.

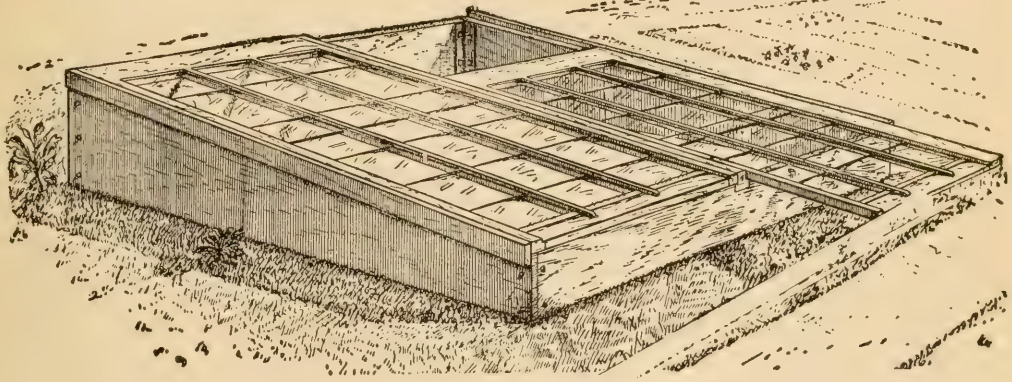
A cold-frame consists of four boards joined together to form a frame which is set upon the ground and covered with sash. The heat secured comes from sunlight only.

Hotbeds should be placed free from walls so there will be space on all sides. The pit is usually six feet by six feet, the frame requiring two sash, each three feet by six feet. A location facing the south or southeast should be selected, protected on the north and west by buildings, walls, or bushes. Frames should face the south and be placed so that no shade will fall upon them during the day. It is usual to dig the pit about eighteen inches deep and to use a subframe. Fresh horse manure containing plenty of straw is most desirable for use in the pit, as it gives a quick, intense heat. Before placing it in the ground it is best to prolong fermentation as long as possible by mixing it thoroughly every two or three days while in the pile. When ready place it in the pit and tramp down thoroughly.

Before adding the soil the sash should be placed over the frame for three or four days while the manure reaches a good condition. When the soil is finally placed in the frame to a depth of from five to eight inches it should be allowed to remain for about four days until it becomes warm and the weed seeds germinate. It should then be carefully raked and pressed down and your hotbed is ready.

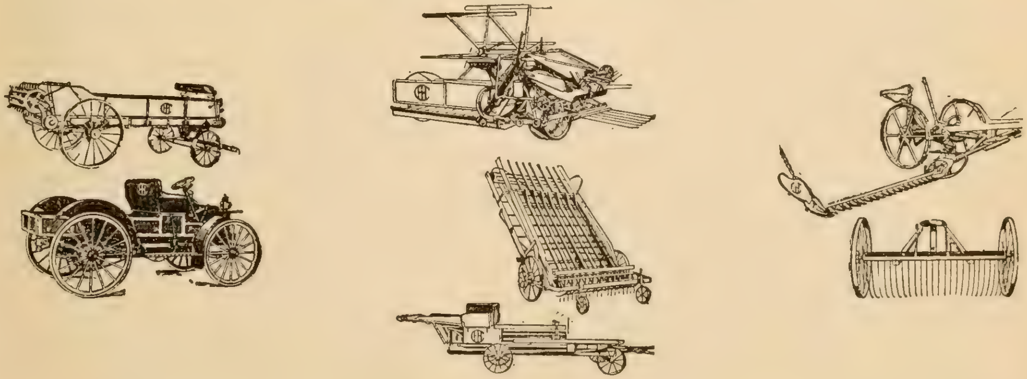
The hotbed should be made about two weeks before the seeds are sown. The sash should be raised a little every morning for ventilation, but not overdone in cold weather. To retain the heat the sash should be closed at night, and when it is extremely cold it is best to cover the beds with boards or old blankets to prevent the plants from becoming chilled. This precaution, however, is unnecessary when double glazed sash are used.

Bank the frame above ground with straw, manure, or other litter, with a little soil thrown over to hold in position.



THE LARGE FARM TOOLS

Comprising Reaping Machine, Manure Spreader, Motor Wagon, Hay Loader, Hay Press, Mowing Machine, Horse Rake



WARMEST
REGIONS IN
UNITED STATES

TEMPERATURES

HOW LOW
THERMOMETER
GOES IN U. S.

The Records Here Given Include Long Periods, Ten Years or More

Explanation.—Water freezes at 32 degrees above zero. We designate zero on the thermometer by a cipher, and in this table we designate zero by a dash before figures. Thus the table shows that cold does not reach below 29 degrees at San Francisco, whereas the record shows 29 degrees below at Denver.

	Average	Highest	Lowest
Alabama—Birmingham	64	104	—10
Mobile	64	102	—1
Montgomery	66	107	—5
Alaska—See below.			
Arizona—Flagstaff	45	92	—18
Phoenix	70	116	22
Yuma	72	120	22
Arkansas—Fort Smith	61	107	—15
Little Rock	62	106	—12
California—Los Angeles	62	109	28
San Diego	61	101	32
San Francisco	56	100	29
Colorado—Denver	50	105	—29
Grand Junction	53	104	—16
Pueblo	52	104	—27
Connecticut—New Haven	50	100	—14
Delaware—Hillsboro	55	104	—17
Washington, D. C.	55	104	—15
Florida—Jacksonville	69	104	10
Key West	77	100	41
Tampa	69	104	10
Georgia—Atlanta	61	100	—8
Columbus			
Toccoa			
Idaho—Boise	51	111	—28
Lewiston		106	—16
Pocatello	48	102	—19
Illinois—Cairo	58	106	—16
Chicago	48	103	—23
Springfield	52	107	—22
Indiana—Bloomington	.....	.....	
Indianapolis	53	106	—25
South Bend	50	103	—22
Iowa—Des Moines	40	109	—30
Dubuque	18	106	—32
Sioux City	48	107	—31
Kansas—Fort Scott	.....	.....	
Manhattan	.....	.....	
Topeka	54	106	—25
Kentucky—Bowling Green	.....	.....	
Lexington	55	102	—20
Louisville	57	107	—20
Louisiana—New Orleans	60	102	7
Shreveport	66	107	—5
Maine—Orono	43	100	—36
Portland	46	97	—17
Maryland—Baltimore	55	104	—7
Princess Anne	57	99	—10
Massachusetts—Boston	49	101	—13
Wooster	47	100	—16
Nantucket	49	89	—4
Michigan—Detroit	48	101	—24
Saginaw			
Minnesota—Minneapolis	45	104	—41
Winnebago	...	...	.....
Mississippi—Biloxi	67	100	1
Vicksburg	65	101	—1
Missouri—Kansas City	60	104	—10
St. Louis	56	107	—22
Montana—Great Falls	46	106	—38
Kalispell	43	92	—19
Miles City	45	111	—40
Nebraska—Fremont	.....	.....	
Lincoln	50	106	—29
North Platte	48	107	—35
Nevada—Carson City	40	100	—22
Winnemucca	48	104	—28
New Hampshire—Concord	46	100	—35
Plymouth	43	102	—38
New Jersey—Cape May	52	99	—7
Trenton	52	103	—15
New Mexico—Mesilla Park	60	106	1
Santa Fe	49	97	—13
New York—Albany	48	100	—25
Buffalo	47	95	—14
New York City	52	100	—6
North Carolina—Asheville	55	94	—9
Charlotte	60	102	—5
Raleigh	60	103	—2
North Dakota—Bismarck	40	106	—44
Devils Lake	38	101	—41
Ohio—Cleveland	49	99	—17
Cincinnati	55	105	—17
Columbus	52	104	—20
Oklahoma—Chandler	.....	.....	
Muskogee	.....	.....	
Stillwater	59	107	—17
Oregon—Baker City	45	101	—20
Portland	53	102	—2
Pennsylvania—Philadelphia	54	103	—6
Pittsburgh	53	103	—20
Rhode Island—Providence	50	103	—9
South Carolina—Charleston	66	104	—7
Greenville	58	97	—5
South Dakota—Pierre	47	110	—39
Tennessee—Memphis	62	104	—9
Nashville	59	104	—13
Texas—El Paso	63	113	—5
Galveston	70	98	8
Utah—Logan	47	100	—19
Salt Lake City	52	102	—20
Vermont—Burlington	46	96	—21
Northfield	41	95	—32
Virginia—Charlottesville	56	100	—9
Hampton	59	98	4
Washington—Tacoma	50	99	—2
Spokane	48	104	—30
West Virginia—Elkins	50	94	—21
Parkersburg	54	102	—27
Wisconsin—Madison	46	104	—29
Milwaukee	45	100	—25
Wyoming—Cheyenne	45	100	—38
Lander	42	99	—36

These records have been taken by the United States Government and cover quite long periods of time, in many cases ten years.

It will be noticed that Key West, Florida, has the warmest temperature throughout the year. While the killing frost comes with the thermometer down to 32 degrees, the temperature at Key West, Florida, never gets lower than 41 degrees.

It is observed that the coldest section in any territory in the United States is in Alaska, north of the Yukon River. The great growth of strawberries, grasses and other plants in summer in northern Alaska results from the long days of sunshine, when the days of sunshine are about twenty hours long.

Having no ocean breeze to cool the air, Yuma, Arizona, is steadily in one of the warmest regions of the United States. Yuma, 120 above. Aaska, 80 below.

Alaska Temperatures.—The range of climate in Alaska is greater than the range between Maine and Florida. The southernmost point on the coast will average about the same as Washington, D. C., only the winters are slightly warmer and there is less snow. There are naturally eight climatic provinces in Alaska, with temperatures ranging as follows:

1—Pacific coast: 90 degrees above to 4 below.
2—Alaskan Peninsula.
3—Aleutian Islands: 78 degrees above to 5 below.
4—Behring Sea: 70 degrees above at Mt. Carmel Mission; 30 below at Ft. Alexander.
5—Behring Sea Islands.
6—Arctic Coast: 65 degrees above to 55 below at Pt. Barrow.
7—Interior: 112 degrees above (Circle City) to 80 below at Ft. Reliance.

Government Agricultural Stations are located at Sitka, Rampart, Fairbanks and Kodiak. A score of varieties of strawberries suitable for the climate have been developed at Sitka. Rampart has made successful experimental tests in grain, notably barley and oats. The Kodiak station has been devoted principally to dairying and livestock; the native grasses have proved almost as good as alfalfa for stock. Fairbanks station is little more than fairly under way; experiments in raising potatoes, oats, hay, winter wheat, celery, rhubarb, cauliflower and cabbage.

WHEN
INJURIOUS

FROSTS

HOW
PREVENT

Temperatures at Which Fruits Are Injured by Frost

The total damage wrought in the United States by the frosts of spring and fall runs into many millions of dollars. Naturally most of this is unavoidable, but a knowledge of the conditions governing frosts, and where possible the use of proper measures of protection, would reduce this sum materially and for the individual may easily mean the difference between profit and loss.

What Is Frost?

Frost, as we all commonly recognize it, is a condensation of moisture on plants in the shape of small ice crystals. Usually the air a short distance above the earth is several degrees above the freezing point at the time that frosts occur. The plants and the earth itself, however, radiate heat very rapidly after sunset and may reach a point where the surface is below the temperature of freezing. Immediately the moisture in the air is deposited on these surfaces in the form of ice crystals.

Location

In setting out to plant a given area, or in searching for a suitable piece of ground on which to place a given crop, the danger of frost should receive careful study. Many crops can stand heavy frosts. Naturally these may be raised in areas that are not particularly free from spring and fall frosts. Other crops which are especially tender should never be attempted except in suitable locations.

Any valley within the temperate zone that is more or less shut in at its lower end is likely to prove a settling point for cold air. On the other hand, hillsides sufficiently elevated above such valleys are protected by the very fact that the cold air drains away from them and are likely to be comparatively free from damaging frosts. Due recognition of these two facts should be made in deciding what crop to grow or what land to choose.

Factors That Influence Frosts

It is everywhere recognized that clear, still nights are particularly apt to be frosty. The reason for this is easily found. Clouds serve as a blanket to the layer of atmosphere just above the earth and hold the heat. The radiation of heat from the earth and from plants goes on very much more slowly when the sky is overcast with clouds.

Winds tend to prevent frosts, because they stir up the air and keep it from forming in layers. If the air is kept constantly stirred by winds, the cold air next the earth will be mixed with the warmer air above and the freezing temperature at the surface of the earth will not be reached. Thus large fans, propelled by gasoline or electric power, may produce a breeze that will prevent frost.

Protection Against Frosts

Anything that will serve as a blanket to assist the earth and the plants to retain the heat they have absorbed during the day will tend to prevent frost. This blanket may be water vapor, a heavy cloud of smoke, or such artificial coverings as straw, boards, earth, etc. With low-growing plants like the strawberry, straw may be used to great advantage as a protection against frost. The value of one crop saved in this way will pay for the labor and cost many times over. Garden vegetables of tender varieties may often be protected by plowing so as to cover their tops with earth.

No practical means have yet been devised for protecting extensive areas of field crops such as potatoes from frost, but in vine and tree fruits, where the value of the crop is so much greater, protective measures may profitably be employed.

A common plan is to build fires or smudges at frequent intervals through an orchard, thereby creating a dense cloud of smoke, which hangs over the orchard and blankets it. These fires may be made of any suitable material that is at hand, or special orchard heaters may be purchased. Several makes are now on the market.

It is important that the fires be rather small in size and distributed at frequent intervals. This is because it is undesirable to create a heavy and strong draft such as a large fire gives rise to, since this draft will carry away to the upper atmosphere the heat and smoke that is needed next to the earth.

Some orchardists have followed the plan of using bags of manure to create a smudge. The manure is tightly packed into the bags and these are distributed through the orchard so as to be ready for use if needed. When frost threatens kerosene is poured on the bag and it is set on fire. It will burn slowly, giving off a dense smoke and adding moisture to the air, which will assist in forming an effective blanket.

Temperatures Injurious to Plants

The following table shows the temperatures at which the plants mentioned are liable to receive injury from frost. The temperatures are, as nearly as possible, those of the air in contact with the plant itself. Frost usually comes when the sky is clear, the wind dies down at sunset, and the air has a crisp, sharp feeling. Plants may often be saved if given very slight protection—a cover of cheese-cloth, branches of trees or even newspapers. In small sheltered gardens frost may sometimes be warded off by building a smudge fire or by placing shallow pans of water near the plants:

Plant or Fruit—	In Bud	In Blossom	In Setting Fruit	At Other
Almonds	28	30	30	28
Apples	27	29	30	26
Apricots	30	31	32	30
Asparagus	29	29	29	26
Bananas	31	31	32	31
Barley		29		
Beans		31		
Beets				25
Cabbage				15-27
Cantaloupes	32	32		30-31
Cauliflower				20-27
Celery				28
Cucumbers	31	31	31	32
Cymlings or squash	31	31	31	30
Flowers*	31	31	31	30
Grapes	31	31	30	28
Grape-fruit	30	31	31	28
Lemons	30	31	31	28
Lettuce				12-28
Mandarins	31	31	31	28
Oats	31			
Okra				31‡
Olives	30	31	31	18§ 24
Onions				20
Oranges†	30	31	31	26‡ 29§
Parsnips				27
Peaches	29	30	30	29
Pears	28	29	29	28
Peas	29	30	30	25
Plums	30	31	31	29
Potatoes: Irish	30	30	30	31
Potatoes: Sweet	31	31	31	31
Prunes	30	31	31	29
Radishes				25
Shrubs, trees, or roses	26-30	28-32		30-25
Spinach				21
Strawberries	28	28	28	30
Tangerines	31	31	31	28
Tomatoes	31	31	31	31
Turnips				26
Watermelons				28-31
Wheat		31	31	
Walnuts, English	30	31	31	28

*Depends on variety.
†Injured at 2 higher if continued 4-6 hours.
‡Ripe. §Green.

Fruit-bearing Table

	Time to Bear, Years.	Good Crop, Years.	Length of Bearing Season, Years.
Apple	6	10	25–40
Blackberry	1	3	6–14
Orange and Lemon	3	6	50
Currant	1	3	20
Gooseberry	1	3	20
Peach	3	5	12
Pear	4	12	75
Quince	2	4	15
Raspberry	1	3	12
Plum	3	6	25
Strawberry	1	2	3

HOW NATURE PREPARES FOR SPRING

No Change in a Thousand Years

S. Edward Paschall, in Farm and Garden News

The rush and haste and hurry of spring work, when a score of things sometimes demand attention at once, can be avoided by imitating Nature.

Nature never hurries. The secret of her achievement is that she never halts. Springtime is merely one of her several annual culminations. Well-devised and long-pursued plans have produced their due results. It is like a play on the stage. The actors have been rehearsing for months and know their parts well. The curtain rises on a performance that is perfect in every detail. The scenery is fresh each season, though the plot is as old as the hills.

Nature begins her spring work just about twelve months in advance. No sooner are this year's leaves open than next year's buds begin to form. By August the axillary buds of the apple are mature and may be transferred by human agency to another tree. Leaf buds and fruit buds are alike formed and finished before the close of summer. Witch hazel opens its yellow flowers in October and November and perfects its seeds late the following summer.

Underground work is completed before the advent of winter. All the bulbs, corms, tubers, rootstocks, and suckers are developed and made ready for quick action when spring comes striding northward at the rate of thirteen miles a day.

The so-called weeds and wild flowers sow their seeds in autumn. The freezing of winter does not injure them. Indeed, the seeds of certain plants require freezing before they will germinate. Nature scatters the smaller seeds gently on the surface of the ground, to be covered with sand or loam by the action of rain, snow, or wind. The larger seeds must be placed deeper in the soil, and the work devolves upon squirrels, mice, and birds. Human beings, copying Nature's methods, have adopted the following rule: Plant seeds about four times their own diameter in the soil.

In winter the trees, shrubs, and herbs appear to be asleep, but in reality they are more or less awake and active, at least part of the time. The sap of trees begins to flow freely in February and March, with the increase of daylight.

Nature does a vast amount of effective manure-spreading in autumn, when she coats every field and forest with decaying organic matter, including leaves, dead grass, and the stems of weeds. The rain and snow compost this material and convert it into plant food.

In addition to this annual supply of organic plant food, there is a considerable amount of inorganic fertility separated each year from the rock particles of the soil. Nature employs frost and ice to lift, pinch, expand, and tear apart the upper layer of the earth, thus affecting the soil to a depth of five or more inches. Often the ground is pulverized as though stirred by harrow teeth. No small amounts of lime, potash, and phosphoric acid (called mineral fertilizers) are thus set free and made available. Freezing and thawing produce both mechanical and chemical results, just as summer cultivation of the soil produces results of two sorts.

At the close of winter, with long days and warm rains, Nature is ready with her moving pictures. Her land has been fertilized, cultivated, seeded and rested, and everything set in order. Results are certain to be quick and spectacular. How can humanity compete with such conditions? There is going to be a sudden release of energy on a world-wide scale. How can the farmer hope to keep step with the rapid march of events?

The answer is simple. It is only needful to imitate Nature—that is, to be prepared. The secret is in beginning long in advance—a year, if need be. To work for tomorrow as well as for today, is called cumulative action; it gains force as it proceeds. Some people call it taking time by the forelock. A well-broken horse can be led by the forelock or tuft of hair growing above the forehead. Time, to be led by the forelock, must be under control. Thorough cultivation of the soil is cumulative in its effects because the process benefits more than one crop. Nature's work is conspicuously cumulative, for she is ever making plans for the morrow. She hoards her resources and lives within her income.

Operations in field and garden can be hastened and valuable spring days saved by observing Nature's methods of preparing and applying plant food not only in autumn but at all seasons of the year. Immediate destruction of waste material is the rule. The old becomes the new. Death is at once followed by life.

Nobody has yet found a better place to store the natural manures than on the surface of the garden, lawn, or field. Some farmers follow the system of immediate disposal during the entire year, never permitting heaps to accumulate at the stables. When the ground is covered with snow they set up stakes to mark the area that has been top-dressed. People who oppose this plan speak of a loss of fertility by leaching when the ground is frozen, but those who practice it say that the waste is trifling as compared to any known method of storage and that the results are highly satisfactory.

It will be observed also (and this is not a stretch of the imagination) that Nature sharpens her tools during the so-called rest months of winter. There is a keen cutting edge on the frost and ice and even on the air and the sunshine of early spring, though soft, is still suggestive of cold. Men's sharp tools make for haste and speed. Nature's sharp tools prevent hurry and check progress that would otherwise be too rapid.

Nature's working plans have not changed one iota in a thousand years. Her master word is preparedness. Good farmers are those who are prepared. Preparedness enables workers to keep pace with their work and to push things instead of being pushed by things. This spring, therefore, is the time to get started on next spring's work.

Remember Nature's sequences: Plans made long in advance; continuous and cumulative work; entire preparedness without haste or hurry. It is not argued that a farmer's spring work can be done in advance of the season's arrival, but only that it can be so planned and executed that there will be no need of worry or waste of energy.

Spraying Calendar

The necessity of spraying is acknowledged by all authorities as being one of the requirements of successful fruit growing. Spraying not only insures better fruit, but more of it, greatly increasing its quality and value.

Grapevines (Fungus diseases; flea-beetle)

First application: In spring when buds swell, copper sulphate solution. Paris green for flea-beetle.

Second application: When leaves are 1 to 1½ inches in diameter, Bordeaux. Paris green for larvae of flea-beetle.

Third application: When flowers have fallen, Bordeaux. Paris green as before.

Fourth application: Ten to 14 days later, Bordeaux.

Currant (Mildew; worms)

First application: At first sight of worms, arsenites.

Second application: Ten days later, hellebore. If leaves mildew, Bordeaux.

Third application: If worms persist, hellebore.

Gooseberry (Mildew; worms)

First application: When leaves expand, Bordeaux. For worms, as above.

Second application: Ten to 14 days later, Bordeaux. For worms, as above.

Raspberry, Blackberry, Dewberry (Anthracnose; rust)

First application: Before buds break, copper sulphate solution. Cut out badly diseased canes.

Second application: During the summer, if rust appears on leaves, Bordeaux.

Third application: Repeat second, if necessary. (Orange or red rust is treated best by destroying entirely the affected plants.)

Strawberry (rust)

First application: As first fruits are setting, Bordeaux.

Second application: After last fruits are harvested, Bordeaux.

Spray materials are now sold by all leading seedsmen, drug and hardware stores, and are put up in concentrated form with full directions for use.

PECAN AND
OTHER NUTS

NUTS

FACTS ABOUT
NUT TREES

Conditions Favorable for Growing Nuts

Almonds

The almond is of the same family as the peach and the nectarine, and the cultivation is similar to that for those fruits. It is a native of Asia and northern Africa and flourishes in America in those regions where the olive thrives. The tree grows to about 20 feet in height, has delicate pinkish blossoms that appear before the leaves, which are a long oval, pointed, with delicate saw-toothed edges.

Chestnuts

The chestnut is profitably grown for market and as a shade tree makes a beautiful ornament. The native chestnut produces a comparatively small, but sweet-flavored nut, while the Spanish nut, introduced by the early Spaniards, has spread through the South and is larger, if coarser. A new species recently introduced from Japan, grows on tall shrubs, it makes a good hedge-row plant besides producing a profitable crop. The pounded chestnut paste is used in confectionery here but the nut has not yet become a staple article of diet as it is among the peasantry of Italy and Spain, though American epicures have learned to use chestnuts in stuffing roast poultry.

Pecans

In recent years the pecan has become a very important nut, particularly in the Southern States, and it may be said that there is no other fruit or nut tree which fits so well into the general farming of this region as the pecan. Cotton, corn, cowpeas, and other farm crops can be grown to advantage among the trees when they are young, and even until the trees have begun to bear well.

When Start a Pecan Orchard

The region in which the pecan may be grown, with a proper selection of varieties, extends from Virginia to Florida, thence west into Texas and Oklahoma. It is destined to become the most important horticultural tree in this whole region, and the pecan orchards of the South will rival the apple orchards of the North and Northwest. The pecan, under proper conditions, will continue to bear fruit long after other trees planted at the same time have ceased to grow; in fact, a pecan orchard is equal to many peach orchards—for instance, in length of life and fruitfulness. As shade trees they make handsome specimens, and they are well adapted for street, road, and yard planting.

How Plant Pecan Trees

Pecan trees should not be set closer than 40 feet apart each way, and from this distance up to 50 feet will be found about right for most soils. The best season for setting the trees is immediately after the leaves fall in autumn. December and January are good months, though the planting season may be continued through February or even March if there is good moisture in the soil. In planting, it will always be found best to set trees of good size, provided they are vigorous and thrifty. Preference should be given to trees of 4 to 5 and 5 to 7 feet grades, as they will give better satisfaction than smaller sizes.

The ground should be carefully staked out, a stake being set for each tree. The holes should be dug wide and deep. In planting the trees, set them at the same depth as they stood in the nursery rows. Pack the earth close and tight around the roots with the hands. The roots must be well covered with damp sacks or burlap to keep them from the sun and wind. Any broken roots should be cut back or cut off before planting. The tops of young trees need not be cut back, but trees grading 4 to 5 feet and up should have the tops cut.

How Soon Yield Crop

In six to eight years after planting, the trees will begin to bear light crops, and by ten years they should be yielding fairly well. A good fertilizer for young trees is one containing about 4 per cent nitrogen and 6 to 7 per cent each of phosphoric acid and potash. For bearing trees increase the potash to about 10 per cent. Stable manure and woodashes can also be used to advantage.

Walnuts

English Walnut or Persian Walnut, sometimes called the Madeira-nut tree, is a native of Persia, is beautiful as an ornamental tree and will grow as far north as New York but produces fruit only in the warmer sections of the country. As a profitable industry the raising of English walnuts is confined to about the same localities as the raisin grape. The tree has flourished in California for years.

In the development of the nut industry, the Japan walnut is well worthy of a place in every planting, and no home orchard should be without a few trees. They should be planted on well-drained land—a sandy or clay loam with a clay foundation is well adapted. The tree is a vigorous grower, and comes into bearing early. In habit of growth they are low and spreading, reaching a height of 15 or 20 feet, with a spread of branch of about the same distance. The leaves are large and handsome. The nuts are borne in clusters of fifteen to twenty. They have rather thick shells, with sweet, plump kernels of very fine quality. They make beautiful lawn or shade trees.

The black walnut is one of our most noteworthy native trees. At one time common throughout the whole of the Eastern and Central United States, it has become a comparatively rare tree in most parts of its native home. Its timber, highly prized for cabinet work, is more valuable than any other native timber. It is also coming into prominence as a stock on which to graft and bud the English or Persian walnut. The nuts, though thick-shelled, are rich, oily, and sweet. The trees grow to a large size with wide-spreading branches, making it a noticeable tree in any landscape. It is well worth planting for its nuts, for its timber, and for its beauty as an ornamental shade tree. It succeeds best on well-drained land, and should not be planted on wet soil.

Peanuts

The peanut plant is a "trailing annual," growing from 1 to 2 feet high, with pale green, hairy stems and spreading branches. It has the peculiar habit of maturing its fruit underground.

Two general varieties are known, the larger termed "Virginia hand-picked," and the smaller variety called Spanish. The former are generally sold for roasting and the latter used, shelled, for the manufacture of peanut butter, salted peanuts, the many candies, and the peanut oil of commerce, which is considered preferable to olive oil for table use, and is used also by watch-makers and others for delicate machinery.

A long, hot, moist summer, at least five months without frost, is demanded by the peanut, and to reach perfect condition it should have little rainfall at harvest time. It wants a well-balanced soil; too much humus makes an excessive growth of vine at the expense of the root, while if the soil is poor in lime, one will harvest only a crop of empty pods; in such case, a ton of quick-lime or three tons of marl may be applied to an acre with good results; phosphoric acid and potash may be used liberally.

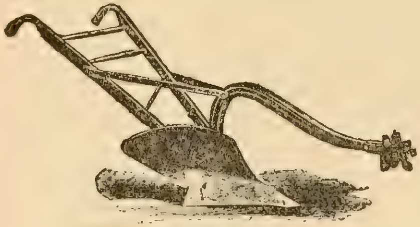
The peanut should follow a cultivated crop, as corn or cotton, and for the benefit of the peanut, stable manure should be applied to this previous crop. The Spanish peanut is recommended as a forage crop, being especially raised for swine. It should be harvested before frost, even if grown only for fodder.

Peanuts are sometimes planted in hills, so that they may be cultivated both ways; the usual way, however, is to plant them in furrows, 3 feet apart, dropping the seed by hand at distances of four inches to two feet apart in the row. Two bushels of seed in the pod will sow an acre. It is best to remove the pod before sowing the larger varieties, taking great care that the skin is not broken. Surface cultivation should be given to kill the weeds and also to let in the air and rain more freely to the roots.

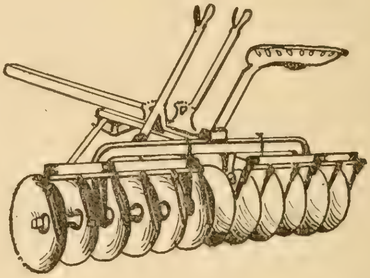
In harvesting, the tap-root should be cut, using a special plow adapted to this purpose, the vines may then be carefully lifted with pitchforks and later stacked around short poles, where they are left for perhaps a fortnight; the pods are then picked off by hand and placed in bags to be stored in dry, well-ventilated sheds.

TOOLS REQUIRED BY THE NEW SETTLERS

Iron Beam Plow to Break Ground, Followed by Subsoil and Other Tools Herewith Seen and Mentioned

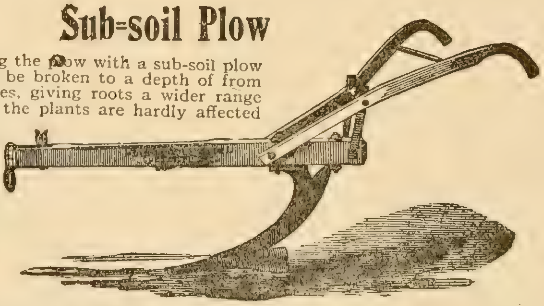


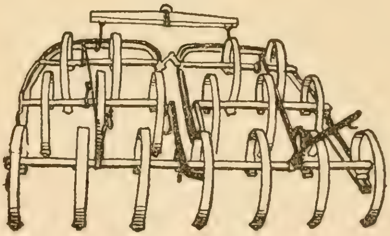
STEEL BEAM PLOW

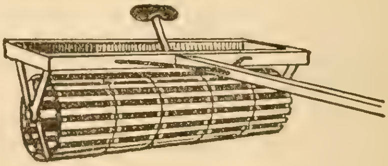


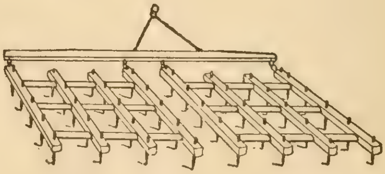
Sub=soil Plow

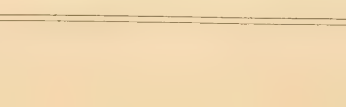
By following the plow with a sub-soil plow the earth can be broken to a depth of from 15 to 20 inches, giving roots a wider range for food, and the plants are hardly affected by excessive drought or a wet season, as the deep soil absorbs all the rain like a sponge and gradually gives off moisture during dry, hot weather. The "Gold Medal" involves new principles and accomplishes the work without throwing any sub-soil on top. Its merits are ease of penetration, light draft, superior pulverization of hard pan, perfection of the "mole track" effect. The one-horse plow will reach to a depth equal to the height of its standard—15 to 16 inches—and the two horse plow to the depth of 20 inches.











TOOLS FOR PREPARING SEED BED.

Common on many farms. Wooden drag, tubular roller, spring-tooth harrow, disk harrow, spike-tooth harrow.

It Is Well to
Know Weights of
All Farm Products

WEIGHTS OF A BUSHEL

**Form the Habit of Learning
Weight of Every Farm Product**

Scales a
Convenience
on the Farm

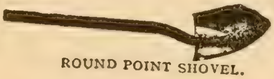
Legal and Customary Weights, per Bushel, in Various States

STATE.	Anthracite Coal.	Apples.	Apples, Dried.	Barley.	Beans.	Buck-wheat.	Corn, on Cob.	Corn, Shelled.	Oats.
Alabama				47	60	48		56	32
Arkansas	80		24	48	60	52	70	56	32
California				50		40		52	32
Colorado				48	60	52		56	32
Connecticut				48	60	48		56	32
Delaware								56	
District of Columbia				47	62	48		56	32
Florida				48	60	48		56	32
Georgia	80		24	47		52	70	56	32
Idaho				48		42		56	36
Illinois	80		24	48	60	52	70	56	32
Indiana			25	48	60	50	68	56	32
Iowa	80	48	24	48	60	52	70	56	32
Kansas	80		24	48	60	50	70	56	32
Kentucky	76	24	24	47	60	56	*	56	32
Louisiana								56	32
Maine		44		48	62	48		56	32
Maryland					62				26
Massachusetts		48		48	60	48		56	32
Michigan		48	22	48	60	48	70	56	32
Minnesota			28	48	60	50		56	32
Mississippi				48	60			56	32
Missouri		48	24	48	60	52		56	32
Montana				48	60	52		56	32
Nebraska				48	60	52		56	32
New Hampshire					62			56	32
New Jersey		50	25	48		50		56	30
New York				48	62	48		58	32
North Carolina				48		50		54	30
North Dakota				48	60	42		56	32
Ohio		48	22	48	60	50	70	56	32
Oklahoma				48		42		56	32
Oregon		45		46		42		56	36
Pennsylvania				47		48		56	30
Rhode Island				48				56	32
South Carolina			26	48	60	56	70	56	32
South Dakota				48	60	42		56	32
Tennessee		50	26	48	60	50	72	56	32
Texas				48	60	42		56	32
Vermont		46		48	62	48		56	32
Virginia	80		28	48	60	52	70	56	32
Washington		45		48		42		56	32
West Virginia				48	60	52		56	32
Wisconsin		57	28	48	60	48	70	56	32

STATE.	Onions.	Peaches.	Potatoes Irish.	Potatoes Sweet.	Rye.	Salt.	Timothy Seed.	Turnips.	Wheat.
Alabama	57		60		56			55	60
Arkansas	57		60	50	56	50	60	57	60
California					54				60
Colorado			60		56		45		60
Connecticut	50		60		56			50	60
Delaware									60
District of Columbia	57		56		56	50	45	55	60
Florida	57		60		56		45	55	60
Georgia	57	38	60	55	56	56	45	55	60
Idaho			60		56				60
Illinois	57	33	60	55	56	50	45	55	60
Indiana	48	33	60		56	50	45		60
Iowa	57	33	60	46	56	50	45		60
Kansas	57	33	60	50	56	50	45	55	60
Kentucky	57	39	60	55	56	50	45	60	60
Louisiana									
Maine	52		60				45	60	60
Maryland		40	56		56	56			
Massachusetts	52		60	56	56		45		60
Michigan	54	28	60	56	56	56	45	58	60
Minnesota	57	28	60		56		45	52	60
Mississippi			60		56		45		60
Missouri	57	33	60		56	50	45	42	60
Montana	57		60		56		45	50	60
Nebraska	52	33	60		56	50	45	55	60
New Hampshire			60		56				60
New Jersey	57		60	54	56		45		60
New York			60		56		44		60
North Carolina					56				60
North Dakota	57		60		56		42	60	60
Ohio	55	48	60	50	56		45	60	60
Oklahoma	52		60		56		42	60	60
Oregon			60		56				60
Pennsylvania	50		60		56	85			60
Rhode Island	50		60		56				60
South Carolina	57		60	50	56	50			60
South Dakota	52		60		56		42	60	60
Tennessee	56	50	60	50	56		45	50	60
Texas	57		60		56		45	55	60
Vermont	52		60		56	70	45	60	60
Virginia	57	40	60	56	56		45	56	60
Washington			60		56		40		60
West Virginia		33	60		56		45		60
Wisconsin	57	28	60		56		45	42	60

Garden Tools from Henderson's Implement Catalogue

SQUARE POINT SHOVEL.


ROUND POINT SHOVEL.

SCOOP SHOVEL.

WOODEN GRAIN SCOOP.

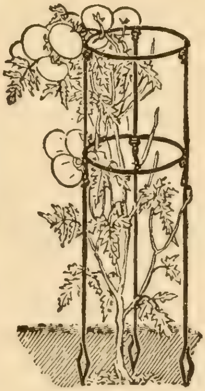
VEGETABLE SCOOP.

SQUARE POINT SPADE.

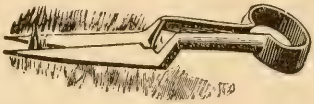
TREE DIGGING SPADE.

POST HOLE SPADE.

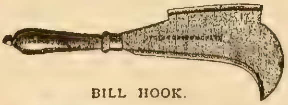
No. 10.
SYRINGE.

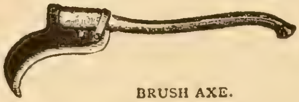

WIRE EXTENSION
TOMATO SUPPORT.

LOPPING SHEARS

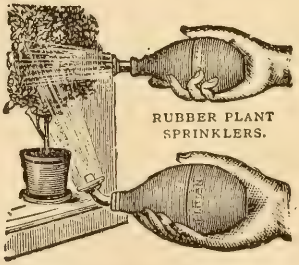

GRASS SHEARS.

HAZELTINE'S WEEDER.

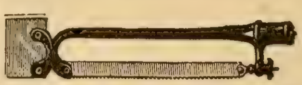

BILL HOOK.


BRUSH AXE.

GARDENER'S GLOVE.


RUBBER PLANT
SPRINKLERS.

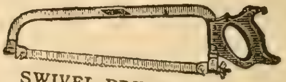
LIGHTNING
DOUBLE-EDGE
PRUNING SAW


COMBINED PRUNING SAW AND CHISEL.

LITTLE GIANT PRUNER AND SAW
COMBINED.

GRAPE-THINNING SCISSORS.

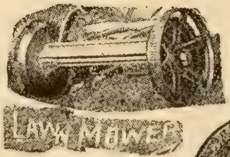
GRUB HOE.

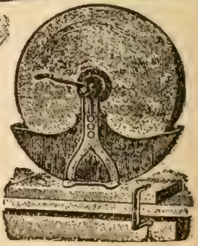

SWIVEL PRUNING SAW.

ENGLISH FLOWER-GATHERING SCISSO

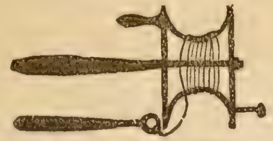
AMERICAN
FLOWER-GATHERING SCISSORS.

Claw Hammer.





Horticultural Implements from Henderson's Catalogue


GARDEN LINE AND REEL.

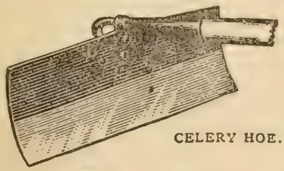
LIGHTNING HAY KNIFE.

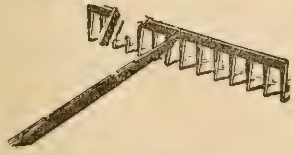
HATCHETS.

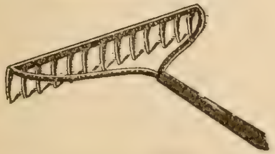
DRAW HOE.

ACME WEEDING HOES

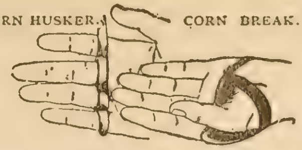
PRONG HOES OR POTATO HOOKS.

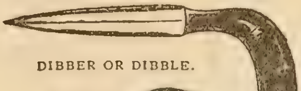

CELERY HOE.


STEEL GARDEN RAKE.


STEEL BOW RAKE.

CORN HUSKER. CORN BREAK.

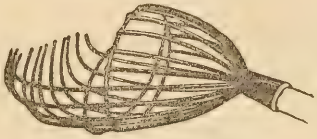


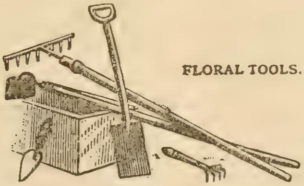

DIBBER OR DIBBLE.

TRANSPLANTING FORKS.

SPADING OR DIGGING FORKS.

MANURE FORKS.

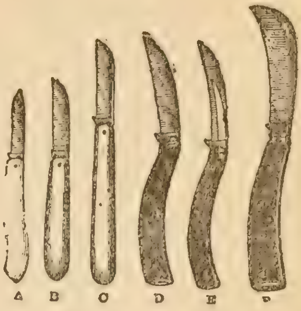

PERFECT FRUIT PICKER.


FLORAL TOOLS.

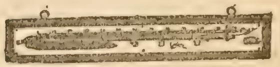
ASPARAGUS KNIVES.

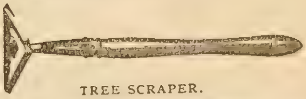
AXE.

BASKET.



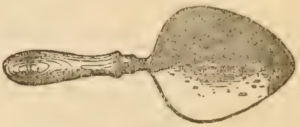
BUDDING AND PRUNING KNIVES.


REGISTERING THERMOMETERS.

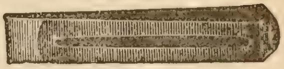

TREE SCRAPER.

"SLIM JIM" TROWEL.

STEEL TROWEL.


HEART-SHAPED TROWEL.

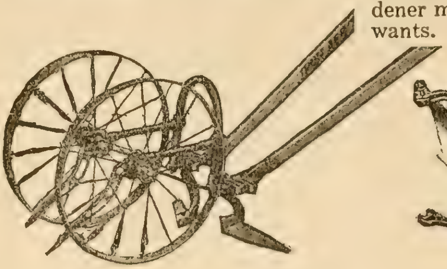
VINE OR WALL NAILS.

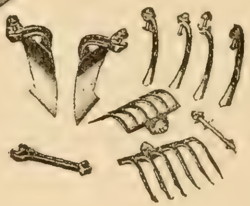

WEDGE.

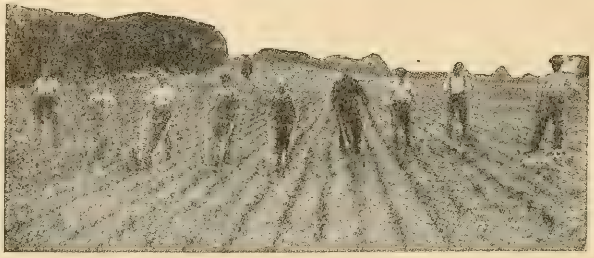
EUREKA WEEDER.

EXCELSIOR WEEDER.

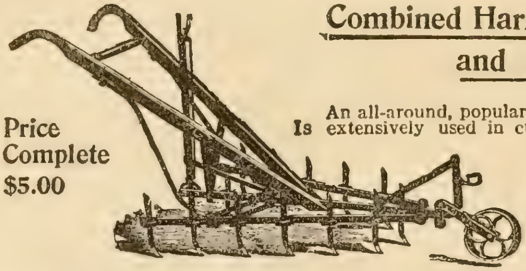
The gardens of to-day with their long rows instead of beds, need up-to-date tools that will do all of the work with the least expenditure of time, labor and money. Here are 38 combinations, ranging in price from $2.50 to $12.00, that answer every need whether planting, cultivating, or distributing fertilizer. There are many attachments for special purposes so that each gardener may find just what he wants.





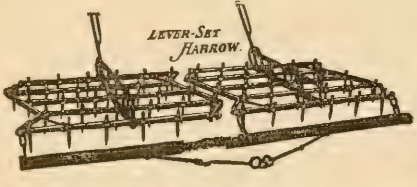


Combined Harrow and Cultivator.

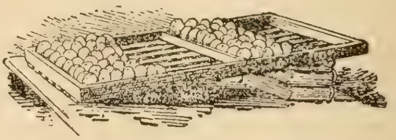


Price Complete $5.00

An all-around, popular, adaptable tool. Is extensively used in cultivating sugar beets. Has diamond-shaped steel teeth with cultivator point forged on one end. They are adjustable for depth and angle. With lever expander, cultivates 34 in. wide and closes to 11. When furnished without wheel, Price, **$4.50.**


LEVER-SET HARROW.

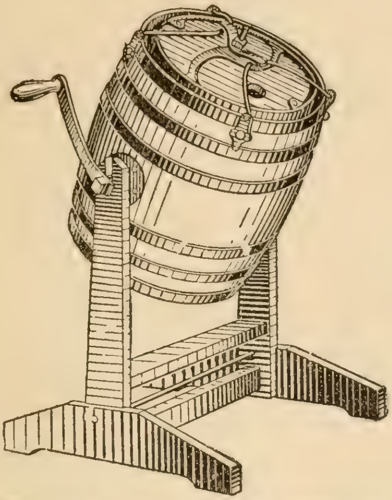
A Spike-Tooth Harrow with Lever Up. A Smoothing Harrow with Lever Down.



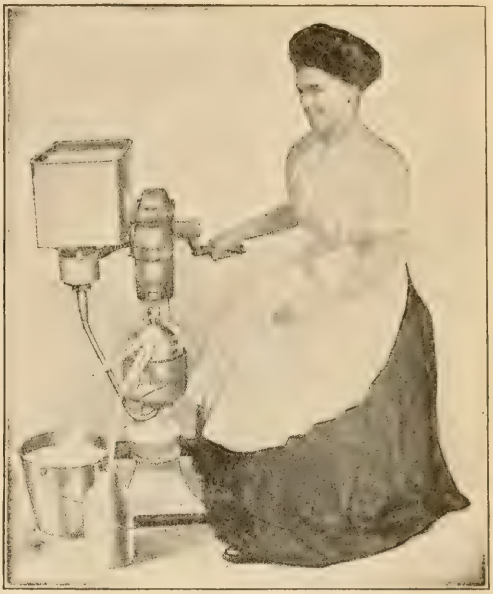
Tray partially filled with potatoes for sprouting.

Some of the Tools and Helps on the Farm

Churn, Cream Separator, Grapery, Chicken Coop, and Manure Spreader



This style of churn proves very satisfactory on the average farm



Cream Separator

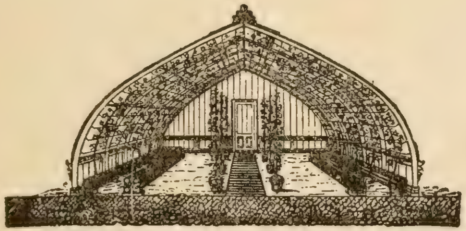
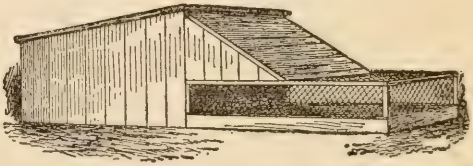
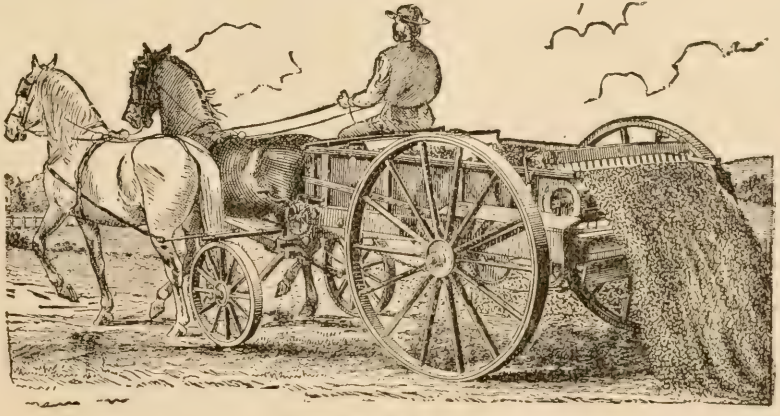


Fig. 78.—GREENHOUSE OR GRAPERY.



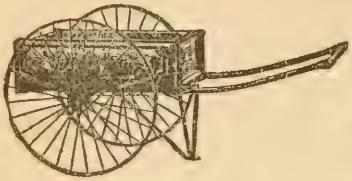
Chicken coop with inclosed and partly covered run



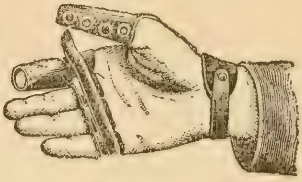
KEMP'S MANURE SPREADER.

Implements Used on the Farm, from Henderson's Catalogue

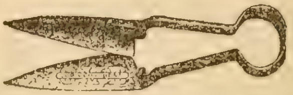
HAND CARTS.



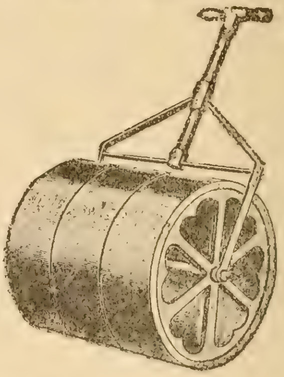
HUSKING PINS.



GRASS SHEARS.

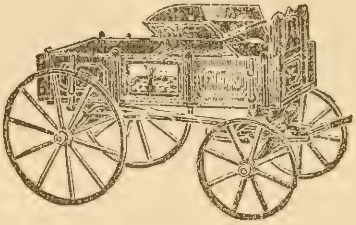


LAWN ROLLER

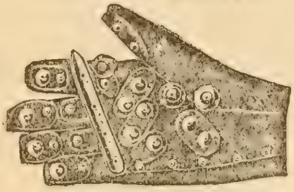


MILK PANS.

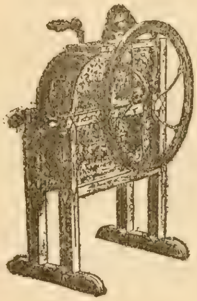
FARM WAGONS.



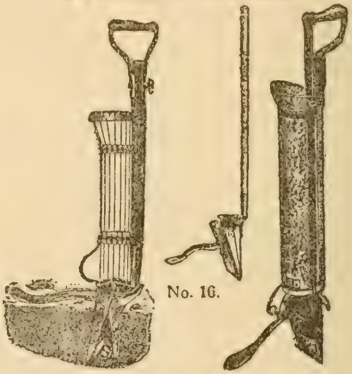
HUSKING GLOVES.



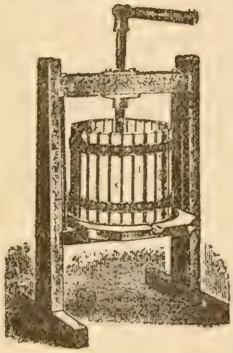
CORN SHELLERS.



POTATO PLANTERS.

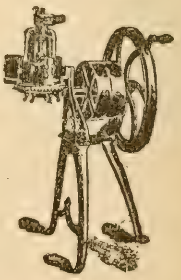


WINE MILLS.



SEED SOWERS

BONE CUTTERS.



STORAGE OF FARM PRODUCTS

Community Interests Are Solving the Problem of Proper Care of Fruits, Vegetables and Grain—the Last Step Towards Putting the Farm on a Business Basis.

Proper storage, whether for fruits, vegetables or grain, is a topic of constantly growing importance to the farmer. Every year cold storage is being brought closer to the farm. The farmer knows its benefits; he knows that by means of refrigeration crops may be held till market conditions are right. He knows that the harvest time is not the proper season for realizing good prices for his produce, and he knows as well that someone is making an extra profit from holding the fruit that he has raised until the normal supply has been used and prices have gone up in consequence. Like other business men, he wants a fair return for his labor and investment, and through individual or community cold-storage plants he is beginning to see his way clear to accomplishing his object.

Of course only on large farms would an individual storage plant pay, except in the way of granaries, bins, silos, barns and cellars. Artificial refrigeration requires a fairly large output to overcome the cost of maintenance. But the community storage plant is easily feasible, as has been proved in the case of co-operative grain elevators, and in the shipping associations of fruit and vegetable growers in many parts of the country. The larger the organization, the greater the net profit, but even small communities raising a common crop can profitably adapt the scheme to their own use.

In California—in all the big fruit states—co-operative associations of fruit-growers are taking over for themselves the responsibilities as well as the profits of proper handling, holding and selling of perishable farm products. The orange and lemon growers of California are banded together in such a mutually helpful organization. The growers of early vegetables, both there and in Florida and other southern states, are falling in line. In the East, the cranberry industry is organized on much the same basis, and in many Michigan localities peaches are marketed and handled in this economical fashion.

Branch cold-storage plants are being installed in the smaller market towns as feeders for the big centers of consumption. Farmers are being encouraged to buy storage when the market price of farm products is too low to tempt selling. The commission man is hiring out his services as an expert in the storage of fruit, selling storage to the farmer who wants to take his own chances on the market.

There was a time, not so many years ago, when the average farmer raised only fruit for home use. The surplus was sold when ripe—if at all—at ridiculous prices, or left to rot on the ground. Apples brought twenty to fifty cents the bushel direct from the orchard; by the holidays the price was out of sight and few to be bought at any price. That was before the day of commercial refrigeration. Now the situation has changed. Prices continue to be low when the crop matures; prices soar through the winter; but apples are nevertheless plentiful. The profit goes to the man who takes the risk—the commission man who has a storage plant to conserve the fruit till market conditions are right.

But conditions are again changing. Everywhere farmers are beginning to demand their fair share of the profits, willing at the same time to bear their fair share of the risk. A number of circumstances have made the new condition possible. New and economical methods of refrigeration—smaller and cheaper plants nearer the farm or on it. Easier and cheaper means of distribution. The parcel post system is making an easy path direct from producer to consumer, and the express companies are offering like inducements. It is now profitable to ship in smaller and smaller quantities. The small fruits, eggs, butter, vegetables, etc., find a ready market in the city, transported at a rate that leaves a margin.

But for the larger fruits, the parcel post or express shipment is not so practical. Moreover, the harvest season comes but once, while the demand continues the year round, prices improving steadily out of season. The longer the farmer is able to hold his fruit, the better his profit. In progressive communities associations are being formed to install storage plants, refrigeration centers, sales agencies. An expert is put in charge, the expenses being taken care of pro rata. The local manager is in touch with markets, prices, the condition of the produce. His employers realize a good profit on his services.

But the members of the association must know something about the storing of fruit so that it may reach the plant in condition best adapted for long keeping. A few directions along this line may prove of value.

Apples, Pears, Peaches. These fruits usually should be fully grown and highly colored to give the best keeping and commercial qualities. Appearance counts a great deal in determining price, but fruit will stay sound longer and be freer from scald and rot if thoroughly ripe. However, fruit from rapidly growing young trees is likely to be overgrown and often needs picking earlier. Picking over the trees several times may be necessary to get uniformity, but it pays. It pays to grade fruit according to size, color and quality. Imperfect fruit rots more quickly and soon contaminates the rest. Bruised fruit should be sorted out.

The fruit should be stored as quickly as possible after picking. The ripening which takes place between picking and storage shortens the life of the fruit, especially if the weather is hot. In the storage plant the fruit should be kept at a temperature of 31 to 32 degrees. Wrapping the fruit holds the color and prevents wilting and bruising. Keeping the fruit closely packed in closed boxes or barrels helps; ventilation hastens rot.

Small Fruit. As a rule small fruit, berries, etc., are not held in cold storage more than a few days. For this purpose a temperature of 36 to 40 degrees is satisfactory. To keep for any great length of time the fruit must be thoroughly frozen. It is well to remember that such fruit rapidly deteriorates after being removed from refrigeration, and that the best results are obtained when the fruit is merely cooled for quick sale. Small fruit that is carefully sorted and graded finds better and easier sale. Bruising of fruit is minimized by making the commercial package as small as possible.

As a rule, berries, currants, cherries, etc., should be picked when well matured and fully colored, but while still firm. The same conditions hold true regarding grapes, cranberries, the smaller plums, etc.

Pre-cooling of Fruit. In order to assist the shipper, pre-cooling plants have been established at nearly all large shipping stations, so that the fruit may be cooled before packing. After being placed in crates or boxes or barrels, the cooling is necessarily very slow, and much deteriorization may result before the car refrigeration is complete enough to arrest it. It cannot be too strongly emphasized that reduced temperature is necessary for the proper keeping of perishable products, even when fruit is separately wrapped, packed in sawdust, or otherwise protected, and the initial cooling is a very essential part of the process. Packed fruit will stay warm or will stay cool a long time.

Vegetables. As a rule vegetables are not so delicate and there is much better chance of reviving wilted shipments. Many of the coarser vegetables, too—potatoes, turnips, squashes, pumpkins, etc., unless designed for long keeping, do not require any extra precautions save protection from bruising, freezing and dampness. Of these the last is especially important. Potatoes should be thoroughly dry before being packed for shipping; any care in the way of cleaning, sorting, etc., pays in higher price per bushel.

Fresh vegetables as a rule should be packed closely, where possible, with roots or tops left on. Lettuce keeps better where not trimmed too closely, although properly bleached head lettuce brings a higher price when trimmed. Bunch stuff sells more easily and brings better prices than bulk, but requires more careful handling and a readier market. Pod peas and beans should be boxed in commercial quantities—the less any vegetable is handled the better its appearance and condition.

Grains. No farmer needs instruction in the storing of grain, and the method of shipping is familiar enough. The grain should be thoroughly ripe, thoroughly dry, and should be kept in a place not subject to great variations of temperature and away from all dampness. Proper ventilation is necessary, but water is the greatest grain enemy. Most of the grain of the country is now stored in elevators, one or more being located in or near every grain-producing community. Many of these elevators are co-operative in their nature, the expense being borne proportionately. As a rule, the farmer stores on his farm only his stock food and seeding grain.

Co-operation in the handling and sale of fruit, vegetables and grain. Inasmuch as under the mixed-crop system few farmers raise enough of any one kind of fruit or vegetable to make an individual refrigeration plant very profitable, co-operative organizations are coming into favor. Occasionally it is cheaper to use the branch commission house for this purpose when the amount shipped at any one time is small. Only when the agriculture of a community is of one kind would any extensive plant pay. But in the grape districts, the apple regions, the peach and pear and truck-farming regions, such an organization meets a real need. Some of the benefits derived are quickly apparent to the farmer whose fruit has barely paid hauling expenses because of poor condition on arrival. Car-lot shipments of perfectly kept produce are cheaper to handle and bring better prices. Such an association, too, has a tendency to improve the quality of the fruit and vegetables offered for sale, and it certainly enables the farmer to realize his fair share of the profits derived from holding his crop for advantageous market conditions.

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